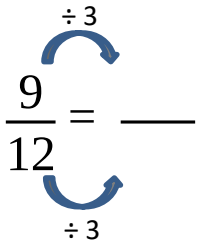
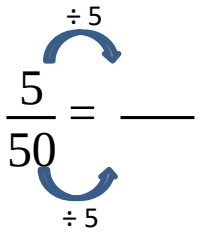
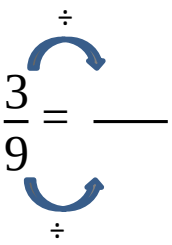
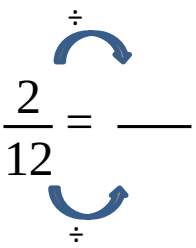
Reducing Fractions (*NSN)

Reduce each fraction to its lowest terms (simplify). Remember: You must divide BOTH the numerator and denominator by the same number! Insert the arrows as demonstrated.









$\frac{8}{14} = \_\_\_$ $\frac{12}{20} = \_\_\_$ $\frac{5}{30} = \_\_\_$ $\frac{32}{36} = \_\_\_$

$\frac{28}{32} = \_\_\_$ $\frac{4}{44} = \_\_\_$ $\frac{9}{24} = \_\_\_$ $\frac{15}{36} = \_\_\_$

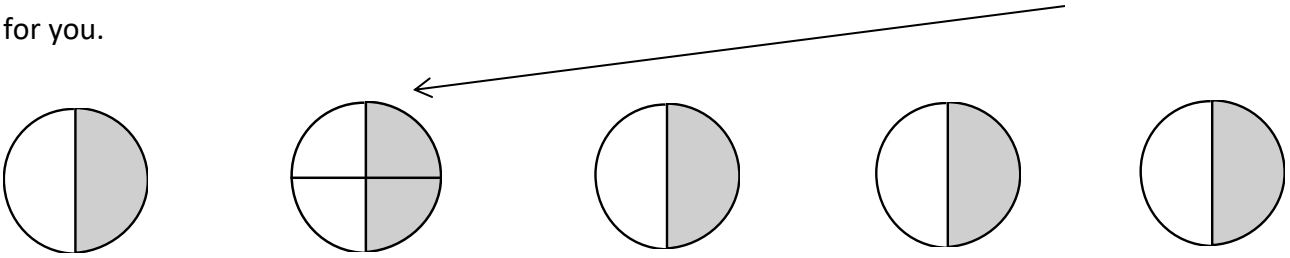
$\frac{14}{24} = \_\_\_$ $\frac{12}{48} = \_\_\_$ $\frac{18}{22} = \_\_\_$ $\frac{6}{28} = \_\_\_$

$\frac{10}{35} = \_\_\_$ $\frac{10}{80} = \_\_\_$ $\frac{8}{26} = \_\_\_$ $\frac{28}{48} = \_\_\_$

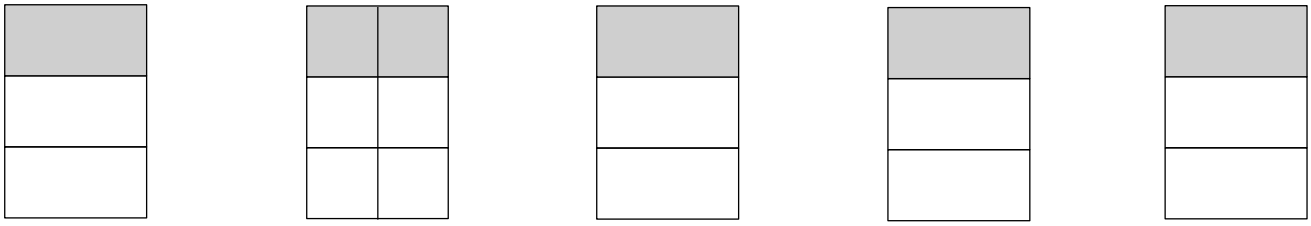
$\frac{15}{21} = \_\_\_$ $\frac{22}{99} = \_\_\_$ $\frac{15}{36} = \_\_\_$ $\frac{5}{21} = \_\_\_$

Finding Multiple Equivalent Fractions (•NSN)

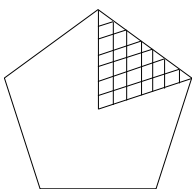
By adding lines inside each individual drawing, find equivalent fractions. The first one is done for you.

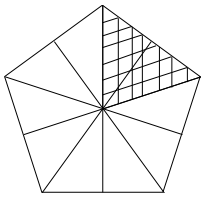


$\frac{1}{2} = \frac{2}{4} = \frac{\quad}{6} = \frac{\quad}{8} = \frac{\quad}{12}$

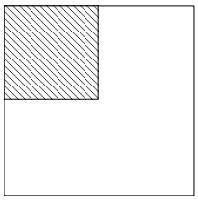


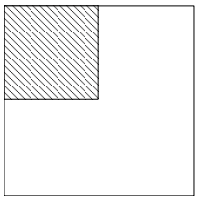
$\frac{1}{3} = \frac{2}{6} = \frac{\quad}{9} = \frac{\quad}{12} = \frac{\quad}{15}$

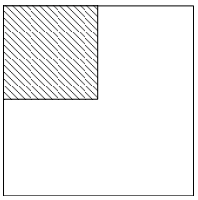




$\frac{1}{5} = \frac{2}{\quad}$





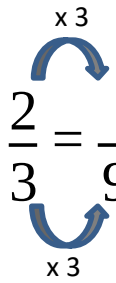


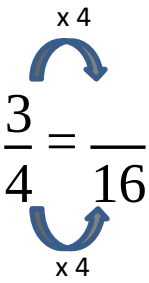
$\frac{1}{4} = \frac{\quad}{8} = \frac{4}{\quad}$

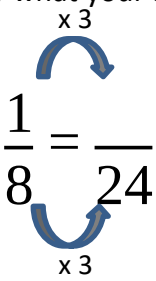
Determine how you can work off the first fraction to create equivalent fractions, without having to rely on the drawing. Below, explain or show how to do this.

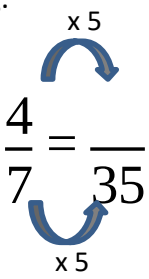
Finding Specific Equivalent Fractions (•NSN)

1. Find the equivalent fraction. Insert the arrows and by what your are multiplying.

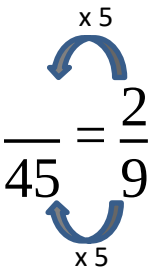


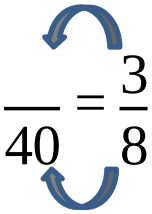


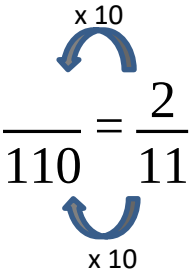


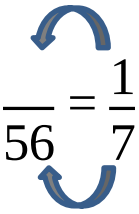


$\frac{3}{4} = \frac{15}{\quad}$ $\quad \frac{4}{5} = \frac{48}{\quad}$ $\quad \frac{2}{9} = \frac{18}{\quad}$ $\quad \frac{5}{8} = \frac{50}{\quad}$









$\frac{60}{\quad} = \frac{10}{11}$ $\quad \frac{45}{\quad} = \frac{5}{8}$ $\quad \frac{12}{\quad} = \frac{2}{5}$ $\quad \frac{12}{\quad} = \frac{4}{6}$

$\frac{1}{9} = \frac{5}{\quad}$ $\quad \frac{2}{8} = \frac{10}{\quad}$ $\quad \frac{\quad}{9} = \frac{10}{18}$ $\quad \frac{4}{12} = \frac{\quad}{48}$

$\frac{54}{\quad} = \frac{6}{9}$ $\quad \frac{\quad}{72} = \frac{7}{8}$ $\quad \frac{7}{12} = \frac{63}{\quad}$ $\quad \frac{6}{11} = \frac{\quad}{121}$

Finding Specific Equivalent Fractions (•NSN)

1. Find the equivalent fraction. Insert the arrows and by what your are dividing.

$\frac{18}{24} = \frac{3}{\_}$ (÷ 6 above 18, ÷ 6 below 24)

$\frac{8}{16} = \frac{4}{\_}$ (÷ 2 above 8, ÷ 2 below 16)

$\frac{10}{30} = \frac{2}{\_}$ (÷ above 10, ÷ below 30)

$\frac{20}{48} = \frac{5}{\_}$ (÷ above 20, ÷ below 48)

$\frac{90}{100} = \frac{\_}{10}$ $\quad \frac{21}{49} = \frac{\_}{7}$ $\quad \frac{24}{56} = \frac{\_}{7}$ $\quad \frac{36}{63} = \frac{\_}{7}$

$\frac{\_}{10} = \frac{120}{144}$ $\quad \frac{\_}{8} = \frac{25}{40}$ $\quad \frac{\_}{12} = \frac{16}{24}$ $\quad \frac{\_}{8} = \frac{21}{24}$

$\frac{12}{\_} = \frac{36}{60}$ $\quad \frac{8}{\_} = \frac{72}{81}$ $\quad \frac{8}{\_} = \frac{16}{50}$ $\quad \frac{5}{\_} = \frac{15}{36}$

$\frac{\_}{9} = \frac{30}{45}$ $\quad \frac{48}{72} = \frac{\_}{12}$ $\quad \frac{45}{60} = \frac{9}{\_}$ $\quad \frac{8}{\_} = \frac{32}{40}$

Converting Mixed Number Fractions to Improper Fractions (•NSN)

$3\frac{4}{6} =$ $2\frac{1}{2} =$ $3\frac{7}{10} =$ $1\frac{4}{10} =$

$1\frac{1}{2} =$ $6\frac{7}{9} =$ $8\frac{3}{7} =$ $7\frac{1}{2} =$

$7\frac{4}{6} =$ $10\frac{1}{4} =$ $5\frac{5}{7} =$ $9\frac{1}{5} =$

$5\frac{4}{6} =$ $4\frac{2}{5} =$ $6\frac{1}{9} =$ $2\frac{2}{6} =$

$7\frac{5}{6} =$ $8\frac{7}{10} =$ $9\frac{4}{6} =$ $6\frac{2}{8} =$

$1\frac{3}{5} =$ $2\frac{7}{9} =$ $4\frac{8}{10} =$ $7\frac{4}{7} =$

$3\frac{8}{20} =$ $4\frac{6}{12} =$ $8\frac{8}{10} =$ $12\frac{12}{20} =$

Converting Improper Fractions to Mixed Number Fractions (•NSN)

Find the equivalent Mixed Number Fraction – don't forget to check to see if the MNF can be reduced!

$\frac{18}{5} =$ $\frac{16}{3} =$ $\frac{24}{7} =$ $\frac{48}{6} =$

$\frac{44}{12} =$ $\frac{40}{8} =$ $\frac{33}{7} =$ $\frac{55}{10} =$

$\frac{87}{11} =$ $\frac{49}{5} =$ $\frac{66}{12} =$ $\frac{83}{9} =$

$\frac{100}{12} =$ $\frac{29}{3} =$ $\frac{56}{6} =$ $\frac{70}{11} =$

$\frac{81}{9} =$ $\frac{121}{12} =$ $\frac{96}{10} =$ $\frac{68}{8} =$

Converting Improper Fractions to MNF and Reducing (*NSN)

$\frac{125}{6} =$ $\frac{55}{20} =$ $\frac{40}{3} =$

$\frac{85}{25} =$ $\frac{33}{24} =$ $\frac{108}{11} =$

$\frac{48}{7} =$ $\frac{44}{6} =$ $\frac{50}{20} =$

$\frac{60}{25} =$ $\frac{18}{14} =$ $\frac{44}{8} =$

$\frac{40}{3} =$ $\frac{48}{9} =$ $\frac{27}{21} =$

$\frac{110}{12} =$ $\frac{58}{20} =$ $\frac{78}{4} =$

$\frac{96}{6} =$ $\frac{156}{3} =$ $\frac{256}{9} =$

Finding Equivalent Fractions – (*NSN)

Find the equivalent fraction – remember, you will have to create another equivalent fraction to find the answer…

$\frac{16}{24} = \frac{\quad}{21}$ $\quad$ $\frac{18}{24} = \frac{\quad}{36}$ $\quad$ $\frac{20}{24} = \frac{\quad}{30}$

$\frac{6}{8} = \frac{15}{\quad}$ $\quad$ $\frac{4}{14} = \frac{6}{\quad}$ $\quad$ $\frac{6}{10} = \frac{15}{\quad}$

$\frac{\quad}{15} = \frac{15}{25}$ $\quad$ $\frac{35}{\quad} = \frac{10}{12}$ $\quad$ $\frac{6}{\quad} = \frac{9}{24}$

$\frac{4}{\quad} = \frac{10}{15}$ $\quad$ $\frac{\quad}{16} = \frac{18}{24}$ $\quad$ $\frac{\quad}{15} = \frac{20}{25}$

$\frac{\quad}{12} = \frac{25}{30}$ $\quad$ $\frac{6}{15} = \frac{10}{\quad}$ $\quad$ $\frac{15}{35} = \frac{\quad}{14}$

Adding/Subtracting Fractions With Same Denominators – (*NSN)

a) $\frac{2}{5} + \frac{1}{5}$ b) $\frac{3}{10} + \frac{4}{10}$ c) $\frac{4}{8} - \frac{1}{8}$ d) $\frac{4}{11} + \frac{5}{11}$ e) $\frac{8}{13} - \frac{2}{13}$

f) $\frac{5}{6} - \frac{1}{6}$ g) $\frac{3}{12} + \frac{5}{12}$ h) $\frac{14}{15} - \frac{5}{15}$ i) $\frac{4}{20} + \frac{12}{20}$ j) $\frac{22}{24} - \frac{12}{24}$

k) $1\frac{2}{5} + 3\frac{1}{5}$ l) $4\frac{3}{10} + 5\frac{4}{10}$ m) $8\frac{2}{4} - 5\frac{3}{4}$ n) $3\frac{4}{5} + 1\frac{2}{5}$ o) $5\frac{3}{8} - 1\frac{7}{8}$

p) $6\frac{2}{5} - 3\frac{4}{5}$ q) $3\frac{3}{11} + 5\frac{1}{11}$ r) $7\frac{1}{4} - 5\frac{3}{4}$ s) $2\frac{1}{5} + 6\frac{1}{5}$ t) $5\frac{2}{8} - 3\frac{3}{8}$

Adding/Subtracting Fractions With Different Denominators (*NSN)

$\frac{1}{2} + \frac{3}{4}$

Problem: The denominators are different!

Solution: Find a common denominator by finding the LCM of the denominators.

Multiples of 2: _____ **LCM of 2 & 4 = _____**

Multiples of 4: _____

Here, the 2nd fraction is already on a denominator of _____, so there is no need to find an equivalent fraction for 3/4. In this case, only the first fraction needed to be transformed:

$\frac{1}{2} = \frac{\quad}{4}$

$\frac{\quad}{\quad} + \frac{\quad}{\quad}$

Add as usual and reduce if possible.

$\frac{5}{6} - \frac{3}{8}$

Multiples of 6: _____ **LCM of 6 & 8 = _____**

Multiples of 8: _____

Here, both fractions need to be transformed so that they are on a denominator of _____.

$\frac{5}{6} = \frac{\quad}{24}$ $\qquad$ $\frac{3}{8} = \frac{\quad}{24}$

$\frac{\quad}{\quad} + \frac{\quad}{\quad}$

Adding and Subtracting Fractions With Different Denominators (*NSN)

$\frac{8}{9} + \frac{1}{3}$

$\frac{3}{4} - \frac{3}{8}$

$\frac{4}{7} + \frac{1}{4}$

$\frac{7}{8} - \frac{2}{3}$

$8 + 3\frac{2}{7}$

$7 - 4\frac{4}{9}$

Adding/Subtracting MNFractions With Different Denominators (*NSN)

a) $1\frac{2}{6} + 3\frac{1}{5}$ **b)** $6\frac{3}{10} - 3\frac{2}{3}$ **c)** $2\frac{1}{4} + 2\frac{3}{5}$

d) $6\frac{2}{3} - 3\frac{4}{5}$ **e)** $3\frac{3}{11} + 5\frac{3}{4}$ **r)** $8\frac{5}{12} - 5\frac{4}{5}$

Fractions – Word Problems – (*NSN)

1. An engine uses 3/8 liters of gasoline every hour. At this rate, how much gasoline will this engine use in one and a half hours?

2. A first glass of water is ¼ full of water, a second glass is 1/8 full, a third is 1/3 full and a fourth glass is 5/12 full. If the water from all of these glasses was poured into one empty glass, would this glass be overflowing? If yes, by how much? If no, how much more would have to be added to make the glass completely full?

3. Water in a pond is at a depth of 10 3/8 cm. After removing a boulder from the pond, the level drops 1 5/6cm. What is the new depth of the pond?

4. If a nail 6 ¼ cm long is driven through two boards each 1 ¾ cm thick, how much of the nail will stick out?

5. James is planning his new garden. He wants to plant 3 ½ rows of carrots, 2 1/3 rows of green beans, 3 ¼ rows of lettuce and 3 5/6 rows of tomatoes. He has 12 available rows in his garden. Will he have enough space to plant all his seeds? If yes, how many rows does he have left? If no, how many rows are missing?

6. A new library book was 4 5/8 cm thick. After 3 years, one if its covers has fallen off and the book is now 4 1/4 cm thick. How thick will this book be when the other cover falls off?

Fractions – Repeated Addition to Multiplication – (*NSN)

1. Add: Can you transform this addition in to a multiplication?

$$\frac{1}{10}+\frac{1}{10}+\frac{1}{10}+\frac{1}{10}+\frac{1}{10}+\frac{1}{10}$$

=

2. Add: Can you transform this addition in to a multiplication?

$$\frac{2}{9}+\frac{2}{9}+\frac{2}{9}+\frac{2}{9}$$

=

3. Add: Can you transform this addition in to a multiplication?

$$\frac{2}{15}+\frac{2}{15}+\frac{2}{15}+\frac{2}{15}+\frac{2}{15}$$

=

SUMMARY regarding multiplying fractions:

Multiplication of Fractions (*NSN)

Multiply these fractions. Don't forget to reduce your answer, if possible. For a challenge, try the "cancelling" method!

$\frac{2}{3} \times \frac{3}{4}$

$\frac{1}{3} \times \frac{5}{10}$

$\frac{2}{6} \times \frac{8}{10}$

$\frac{3}{5} \times \frac{5}{7}$

$\frac{9}{10} \times \frac{1}{2}$

$\frac{2}{6} \times \frac{5}{9}$

$\frac{3}{6}$ of 9

$\frac{1}{9}$ of 8

$\frac{3}{6}$ of 10

$\frac{4}{6}$ of 6

$\frac{1}{2}$ of 9

$\frac{4}{7}$ of 2

$4\frac{2}{9} \times 3\frac{1}{4}$

$3\frac{1}{2} \times 2\frac{6}{7}$

$4\frac{4}{7} \times 2\frac{1}{10}$

$3\frac{1}{4} \times 3\frac{2}{3}$

$2\frac{1}{5} \times 2\frac{3}{8}$

$2\frac{4}{5} \times 3\frac{2}{7}$

Multiplication of Fractions (*NSN)

Multiply these fractions. Don't forget to reduce your answer, if possible. For a challenge, try the "cancelling" method!

$\frac{5}{12} \times \frac{8}{12}$

$\frac{6}{8} \times \frac{8}{3}$

$\frac{10}{9} \times \frac{8}{5}$

$2\frac{1}{2} \times \frac{3}{5}$

$2\frac{1}{2} \times 3\frac{2}{3}$

$\frac{3}{10} \times 3\frac{2}{5}$

$1\frac{5}{6} \times 4\frac{1}{5}$

$3 \times 3\frac{2}{5}$

$2\frac{2}{7} \times 5$

Fraction to Decimal to Percent (*NSN)

FRACTION	DECIMAL	PERCENT
$\frac{1}{10}$		
	0.5	
		60%
$\frac{3}{4}$		
	0.8	
		45%
$\frac{2}{7}$		
	0.25	
		20%
$\frac{8}{3}$		
	0.248	
		128%

Comparing and Ordering Fractions – (*NSN)

1) Place < > or = inside of each box. Prove by leaving traces of your work!

a) $\frac{3}{4} \square \frac{7}{10}$ b) $\frac{2}{5} \square \frac{3}{8}$ c) $\frac{9}{5} \square \frac{11}{7}$ d) $\frac{8}{9} \square \frac{7}{8}$ e) $\frac{5}{12} \square \frac{7}{13}$

f) $1\frac{3}{4} \square 1\frac{5}{8}$ b) $\frac{12}{5} \square \frac{13}{8}$ c) $2\frac{1}{5} \square 1\frac{4}{5}$ d) $5\frac{1}{9} \square \frac{47}{9}$ e) $3\frac{2}{3} \square \frac{19}{6}$

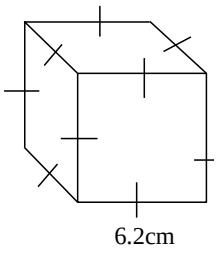
2) Place in increasing order. Show your work!

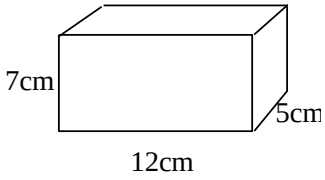
a) $1\frac{5}{8}$ $\frac{12}{5}$ $1\frac{1}{4}$ $\frac{3}{4}$ $\frac{9}{10}$

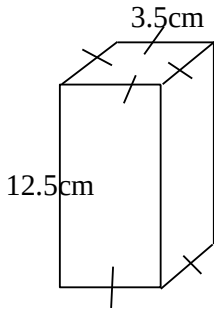
b) $1\frac{3}{4}$ 0.8 $\frac{15}{6}$ 2.4 $\frac{1}{2}$

Surface Area (Measure)

For each of the following shapes, sketch a net. Then, calculate the Surface Area (S.A.) using your class notes as a model. Make sure you use the proper form (state formula, identify variables, substitute variables, solve using BEDMAS, work downwards, line up equal signs on the left, insert unit of measure at the end.



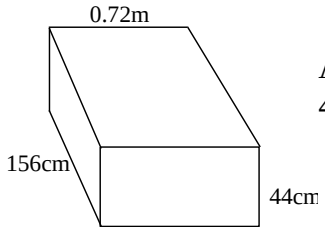




Surface Area (Measure)

For each of the following shapes, sketch a net. Then, calculate the Surface Area (S.A.) using your class notes as a model. Make sure you use the proper form (state formula, identify variables, substitute variables, solve using BEDMAS, work downwards, line up equal signs on the left, insert unit of measure at the end.

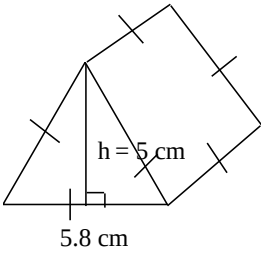
A cube with side lengths of 8.3cm

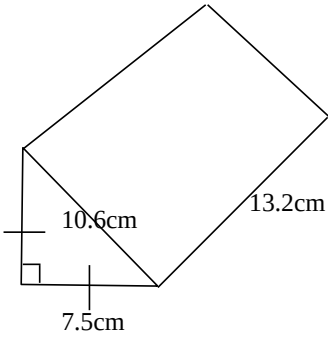


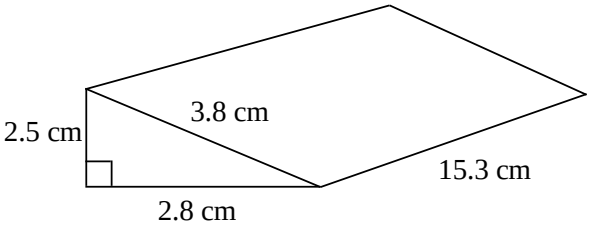
A rectangular based prism with side lengths of 4.5cm, 6.5cm and 7.1cm

Surface Area – Continued (Measure)

For each of the following shapes, sketch a net. Then, calculate the Surface Area (S.A.) using your class notes as a model. Make sure you use the proper form (state formula, identify variables, substitute variables, solve using BEDMAS, work downwards, line up equal signs on the left, insert unit of measure at the end.

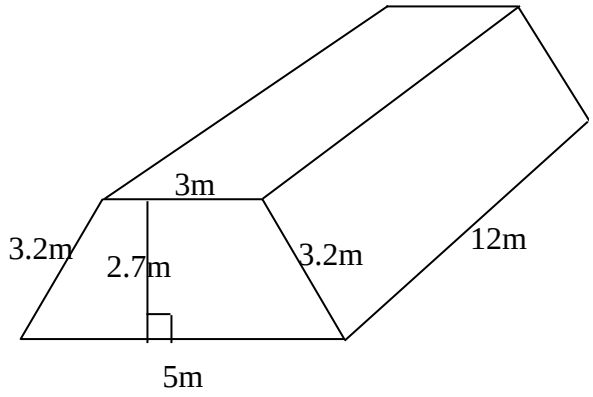




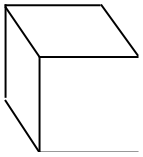


Surface Area – Continued (Measure)

Sketch a net for the following shape. Then, calculate the Surface Area (S.A.) using your class notes as a model. Make sure you use the proper form (state formula, identify variables, substitute variables, solve using BEDMAS, work downwards, line up equal signs on the left, insert unit of measure at the end.

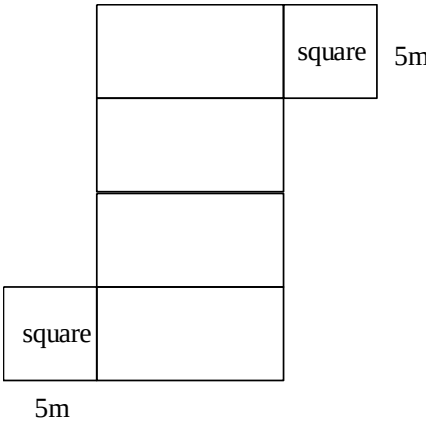


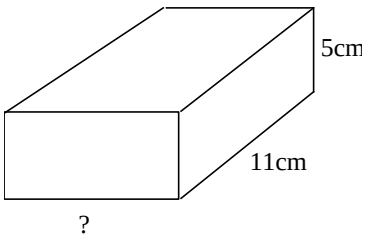
S.A.– Working Backwards/Trial & Error (Measure)



If the S.A. of a cube is 384m^2, what is the length of its edges?

If the following rectangular based prism has a SA of 250cm^2, what would be the length of the base and height of the rectangles?

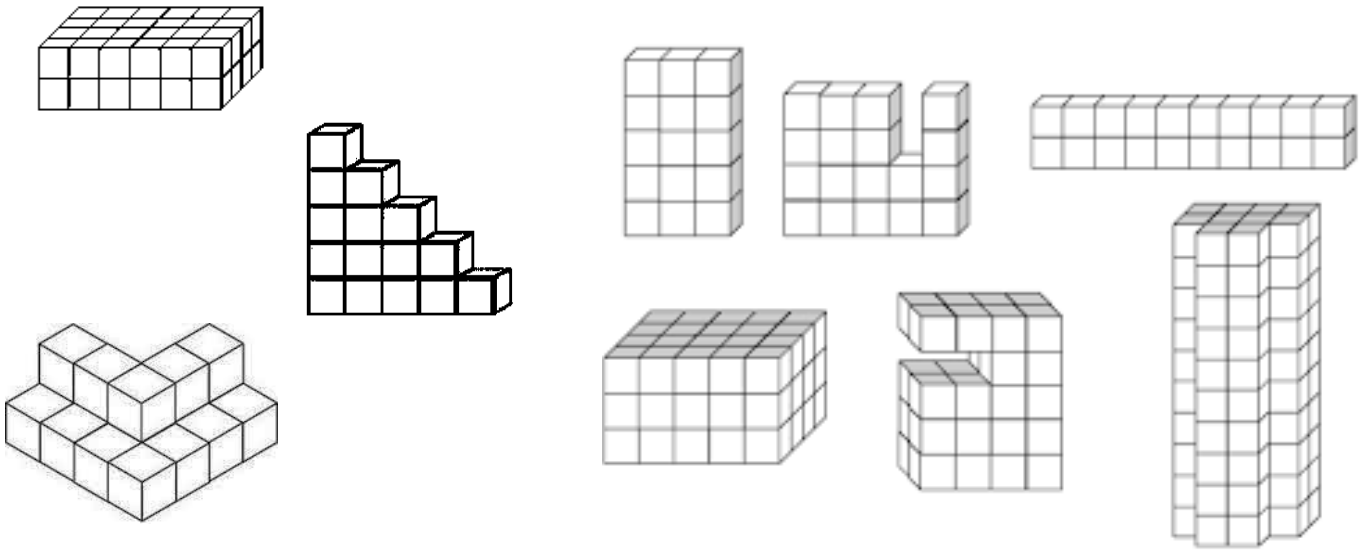




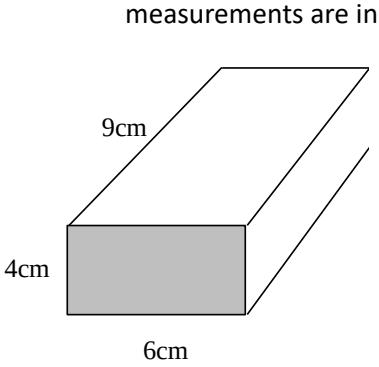
If the following rectangular based prism has a SA of 366cm^2, what is the length of the missing value?

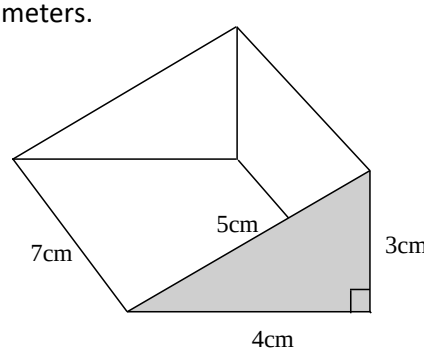
Volume of Irregular Shapes and Prisms (Measure)

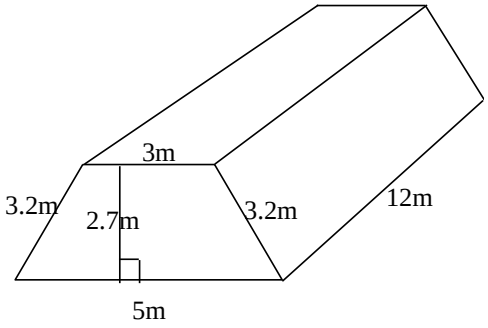
A State the volume of each figure below by counting the cubes (Note: each cube is $1cm^3$).



B Calculate the volume of each figure below. Remember: Calculate the area of the face, then multiply this answer by the depth/height of the prism. Use the 5-Step method. All measurements are in centimeters.

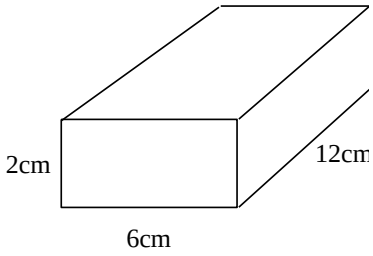


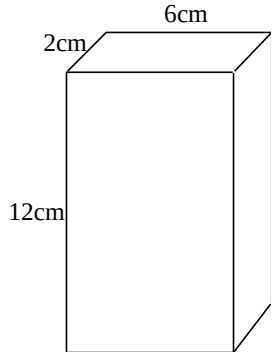


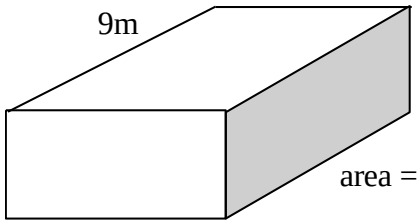


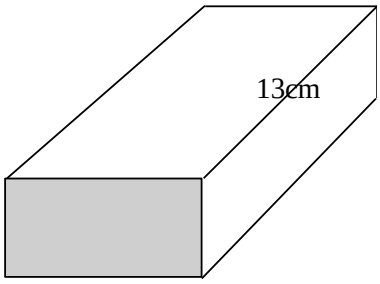
Volume of Rectangular-Based Prims (Measure)

Calculate the volume of each prism below. Don't forget to use the 5-step method (form).









Area of face = 48cm²

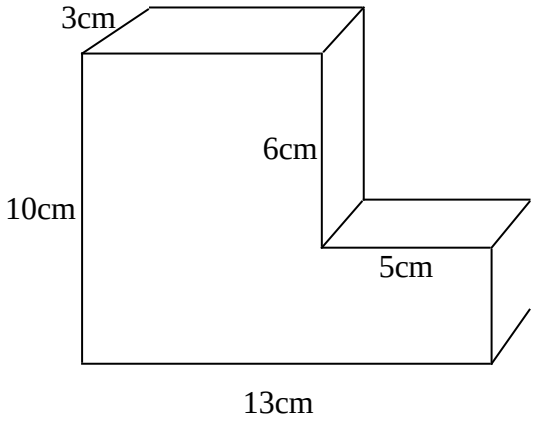
Volume of Irregular Shapes/Prisms (Measure)

Calculate the volume of the figure below. Remember to either:

1) Break your shape up into smaller prisms and then find the sum of the volumes (solve by addition).

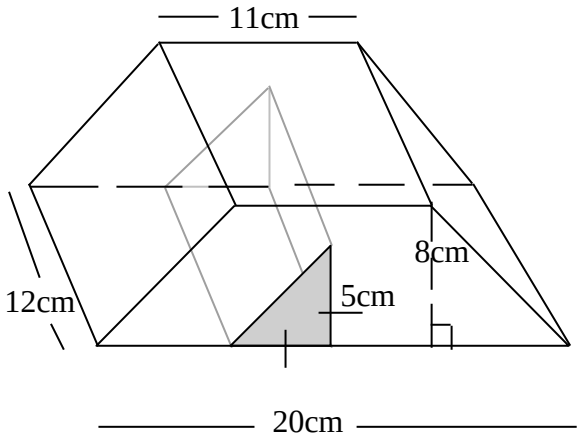
2) Calculate the volume of a larger prism and subtract the volume of the smaller prism (solve by subtraction).

Do not forget to use the 5-Step method.



Volume of Rectangular-Based Prims (Measure)

Calculate the volume of the trapezoid-based prism below if we were to remove the volume occupied by the triangular-based prisms located on the inside of the 3D shape. Don't forget to use the 5-step method.



The Cartesian Plane (Geo)

1. Name the coordinates of each point:

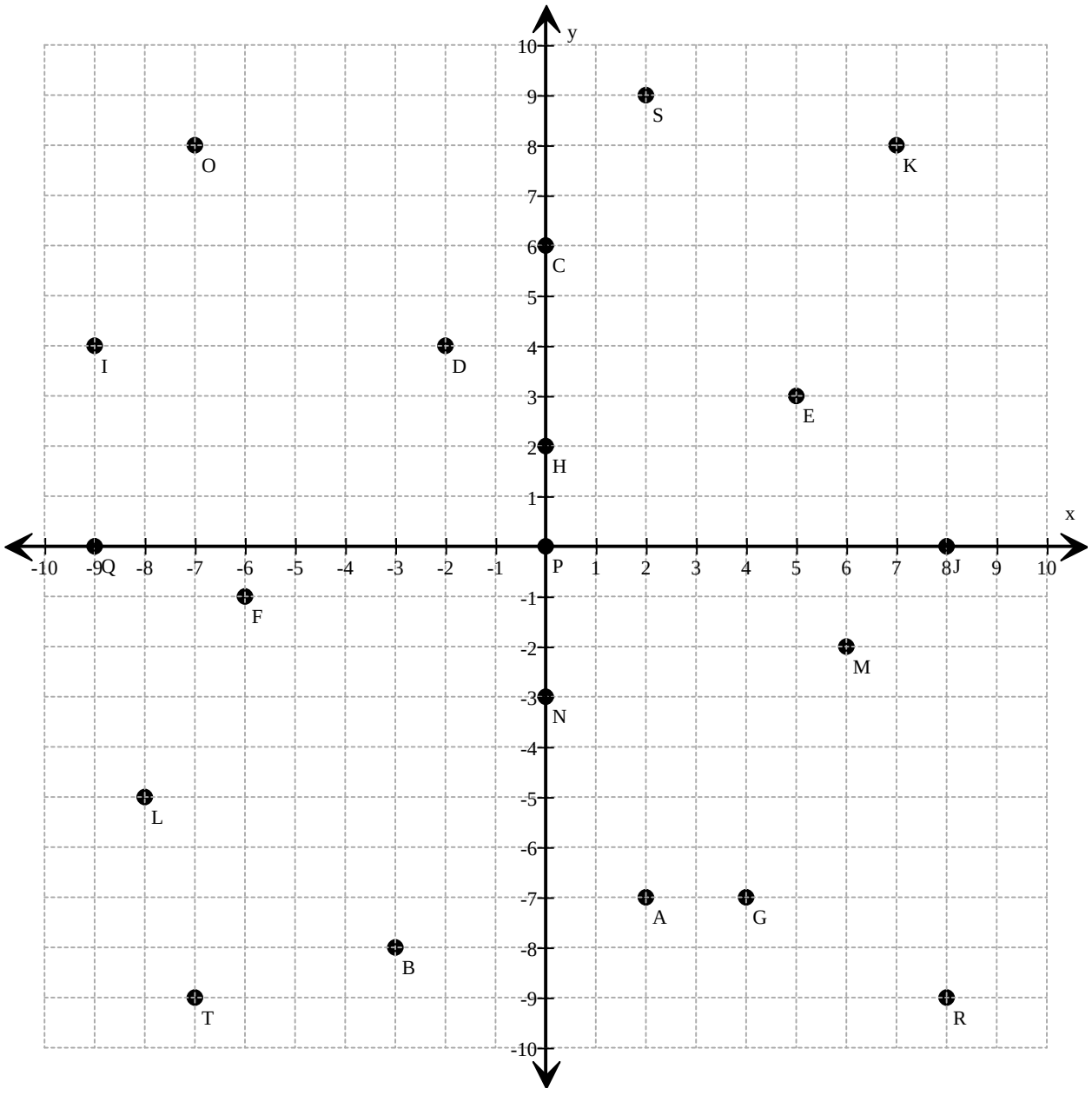
A(_____,_____) B(_____, _____) C(_____, _____) D(_____, _____)

E(_____, _____) F(_____, _____) G(_____, _____) H(_____, _____)

I(_____, _____) J(_____, _____) K(_____, _____) L(_____, _____)

M(_____, _____) N(_____, _____) O(_____, _____) P(_____, _____)

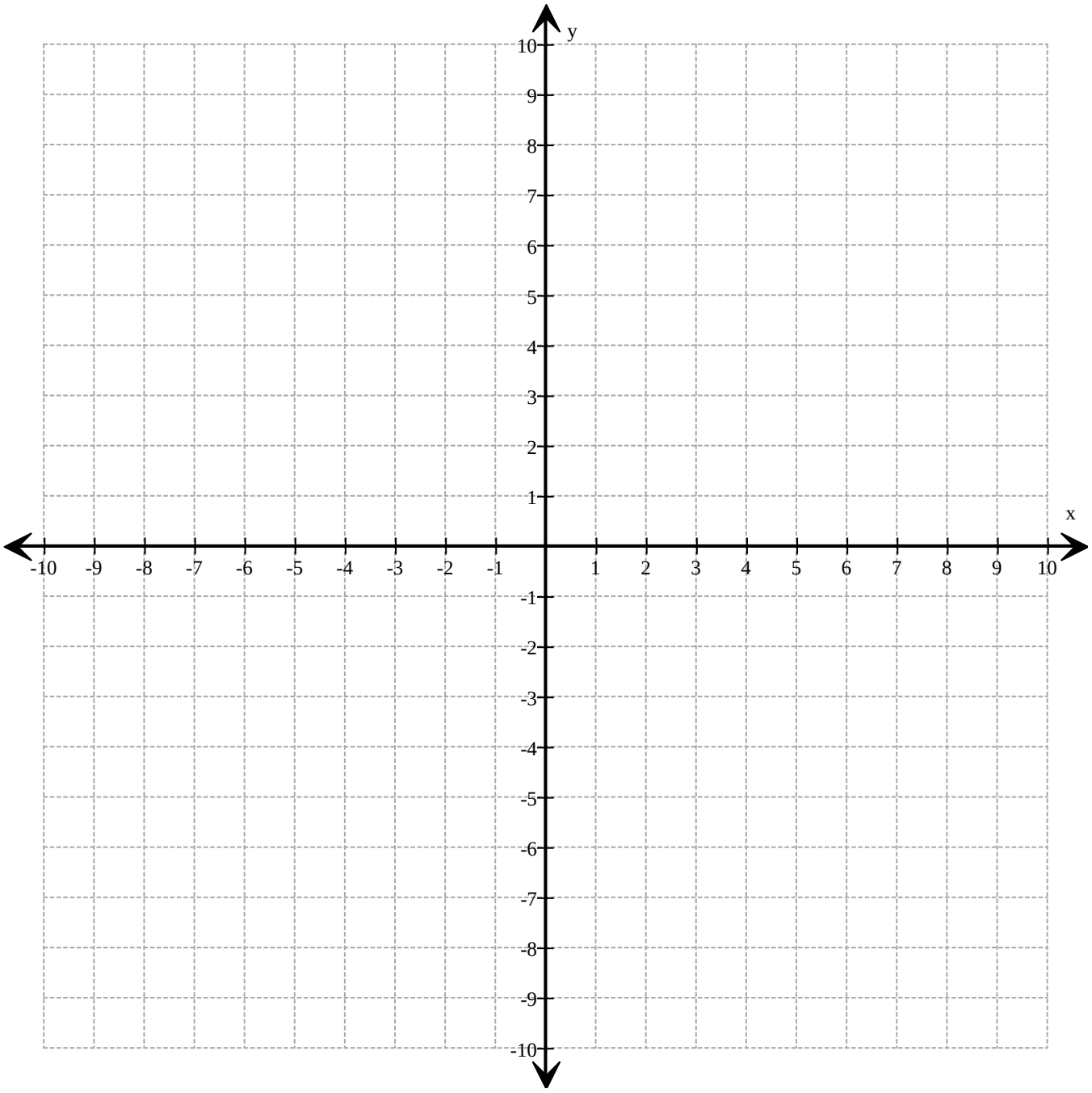
Q(_____, _____) R(_____, _____) S(_____, _____) T(_____, _____)



The Cartesian Plane (Geo)

1. Place the following points on the Cartesian Plane:

A(-4, 8)	B(-2, -7)	C(3, 6)	D(0,9)	E(-1, -8)	F(7,0)	G(5,5)
H(1,6)	I(-5,0)	J(-3, -3)	K(6, -1)	L(-7, -8)	M(7, -4)	N(-6,-8)
O(-9,5)	P(10,3)	Q(9,-3)	R(8,-7)	S(-8,0)	T(7,-7)	U(8,8)



The Cartesian Plane - Review (Geo)

1. Name the coordinates for each point. REMEMBER: Start at the origin and figure out left/right movement first (X-axis movement), then up/down movement (Y-Axis movement).

A: (____,_____)

B: (____,_____)

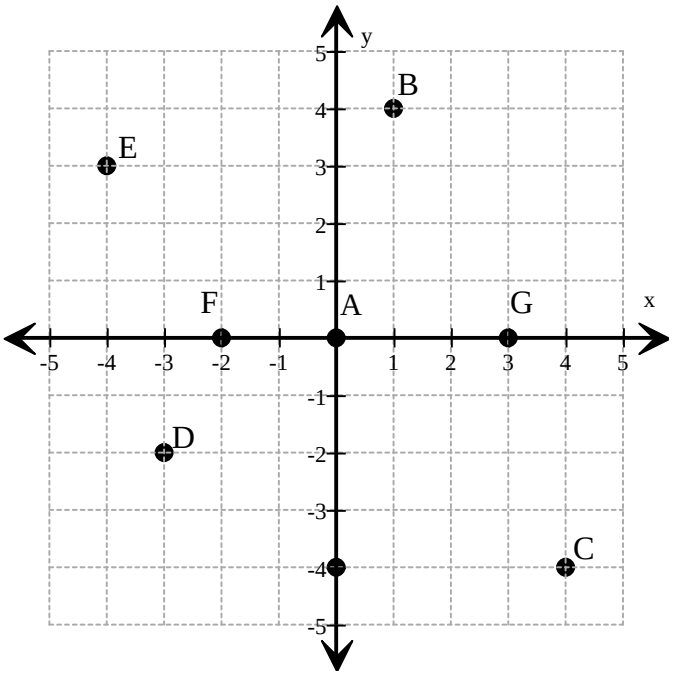
C: (____,_____)

D: (____,_____)

E: (____,_____)

F: (____,_____)

G: (____,_____)



2. Plot/place the following coordinates on the Cartesian Plane. Don't forget to label each coordinate with its corresponding capital letter. REMEMBER: Start at the origin and slide the left/right movement first (X-axis), then slide the up/down movement (Y-Axis).

H: (4, 1)

I: (-3, -5)

J: (+3, +5)

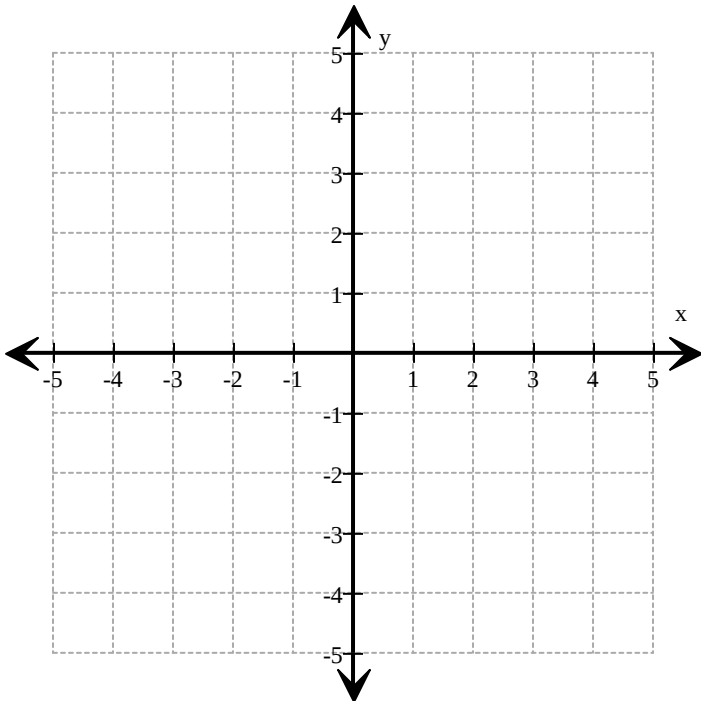
K: (0, 4)

L: (5, -3)

M: (-2, 0)

N: (-1, 5)

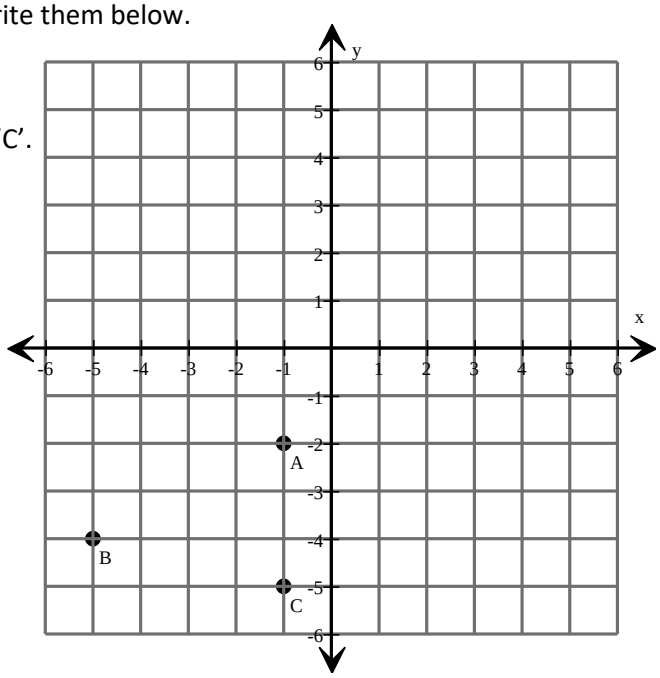
O: (0, 0)



Translations on the Cartesian Plane (Geo)

1. Using the Cartesian Plane on the right:

   a) Using a ruler, join points A to B, B to C and C to A.
   b) Determine the pre-image coordinates (of A, B, C). Write them below.
   c) Translate (slide) the pre-image triangle ABC.
   6 units right and 4 units up.
   d) Draw the image using a ruler and label the image A'B'C'.
   e) Write the image coordinates below.
   f) Determine the translation vector and write it below.



Pre-Image Coordinates: Image Coordinates

A (_____, _____) A^{I} (_____, _____)

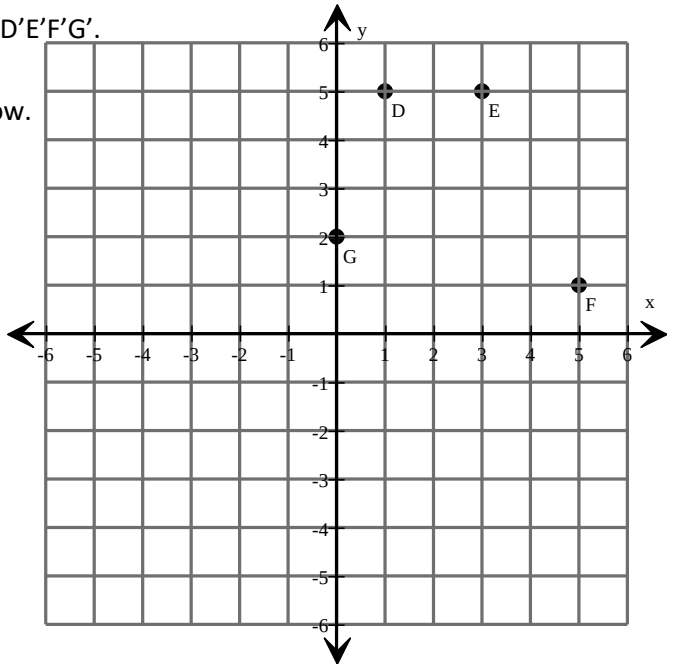
B (_____, _____) B^{I} (_____, _____)

C (_____, _____) C^{I} (_____, _____)

The translation vector is [____, _____]

2. Using the Cartesian Plane on the right:

   a) Using a ruler, join points D to E, E to F, F to G and G to D.
   b) Determine the pre-image coordinates (of D, E, F and G). Write them below.
   c) Translate (slide) the pre-image trapezoid DEFG.
   5 units left and 7 units down.
   d) Draw the image using a ruler and label the image D'E'F'G'.
   e) Write the image coordinates below.
   f) Determine the translation vector and write it below.



Pre-Image Coordinates: Image Coordinates

D(____, _____) D^{I} (_____, _____)

E(_____, _____) E^{I} (_____, _____)

F(_____, _____) F^{I} (_____, _____)

G(_____, _____) G^{I} (_____, _____)

The translation vector is [____, _____]

Translations on the Cartesian Plane (Geo)

1. Locate and label each coordinate (pre-image) on the Cartesian Plane. Then, translate each coordinate according to instructions and label the new coordinate (image) on the Cartesian Plane. Finally, write the image coordinates on the left of the Cartesian Plane.

a) A (-1, 4) translated 1 unit to the right and 2 units down.
A^{I} (_____, _____)

b) B (-5, -4) translated 6 units to the right and 8 units up.
B^{I} (_____, _____)

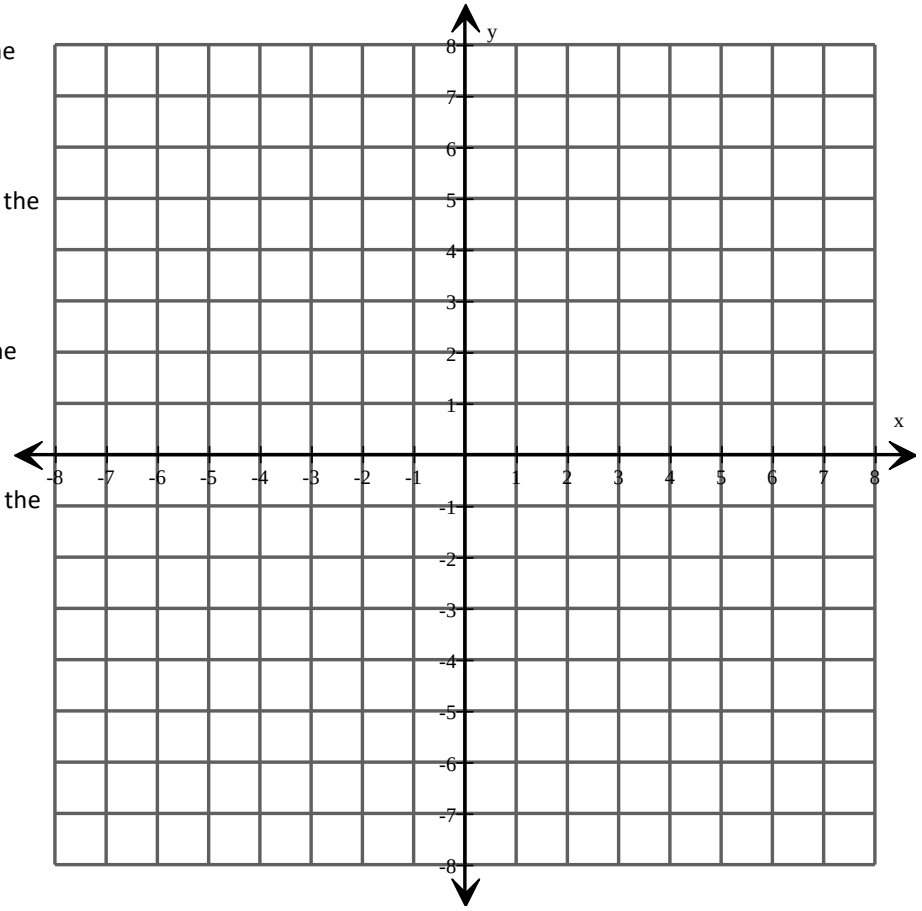
c) C (7, 6) translated 9 units to the left and 3 units down.
C^{I} (_____, _____)

d) D (-6, 0) translated 10 units to the right and 7 units up.
D^{I} (_____, _____)

e) E (-3, -7) translated [5, 11]
E^{I} (_____, _____)

f) F (3, -1) translated [-7, -2]
F^{I} (_____, _____)

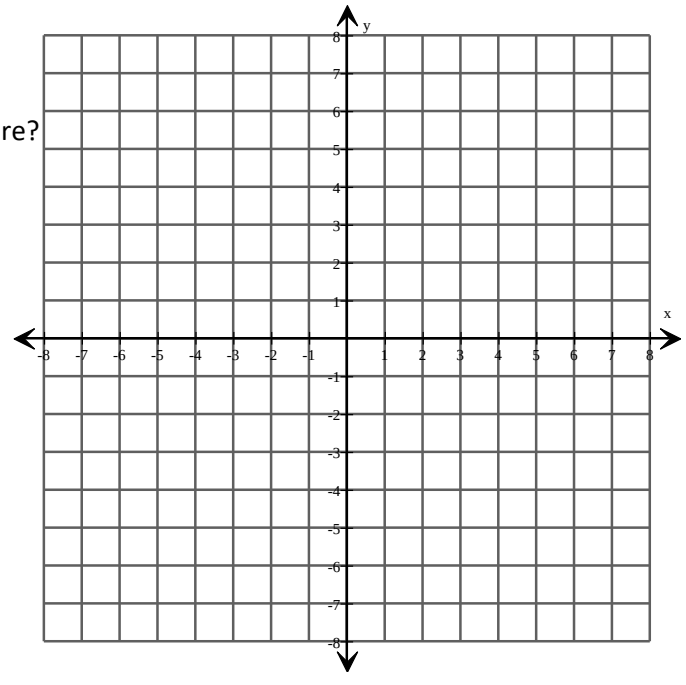
g) G (-7, 6) translated [10, -11]
G^{I} (_____, _____)



2. A square has coordinates A(-3, -3), B(-3, 3), C(3, 3) and D(3, -3). The square is translated [-3, -4]. What are the points of the image square? Draw the image on the Cartesian Plane below and indicate its image coordinates:

A^{I} (_____, _____) B^{I} (_____, _____)

C^{I} (_____, _____) D^{I} (_____, _____)

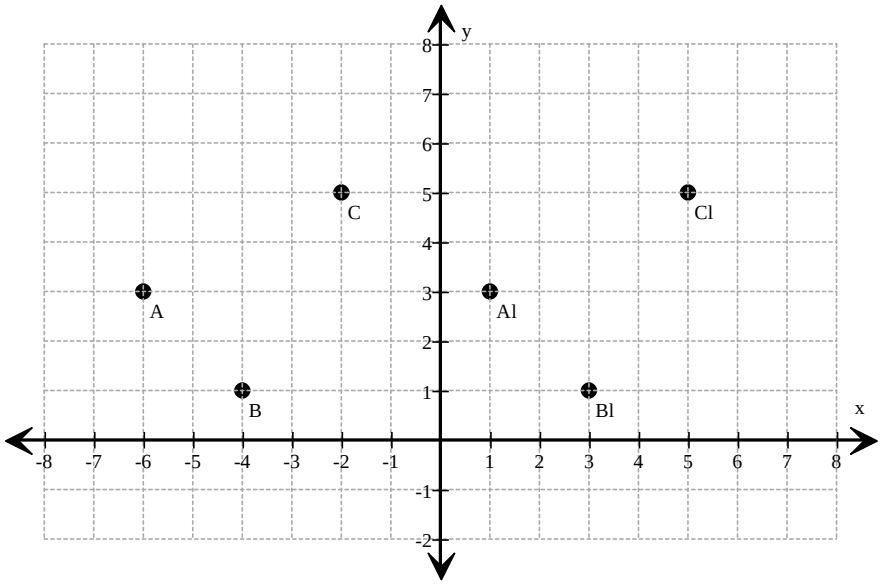


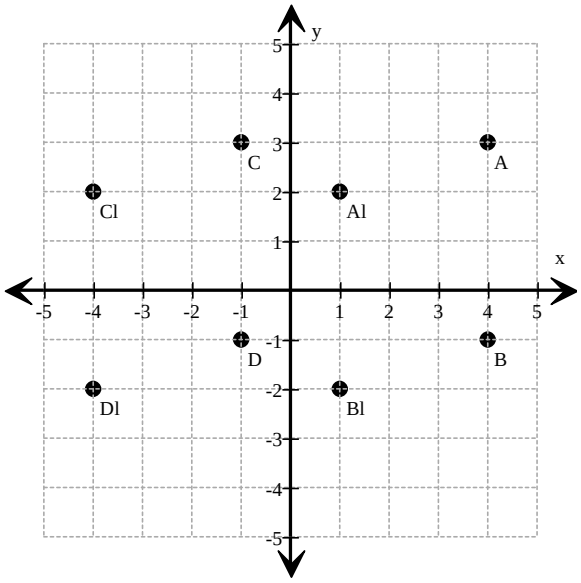
Translations on the Cartesian Plane (Geo)

1. Using the Cartesian Planes below, fill in the missing information:

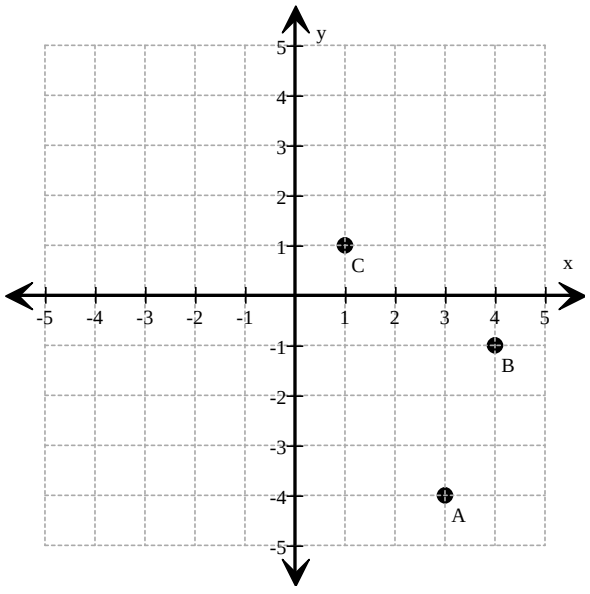
ΔABC was translated _____ unit(s) to the _____ and _____ unit(s) _____.
The corresponding translation vector is [___, ___].

□ ABCD was translated _____ unit(s) to the _____ and _____ unit(s) _____.
The corresponding translation vector is [___, ___].

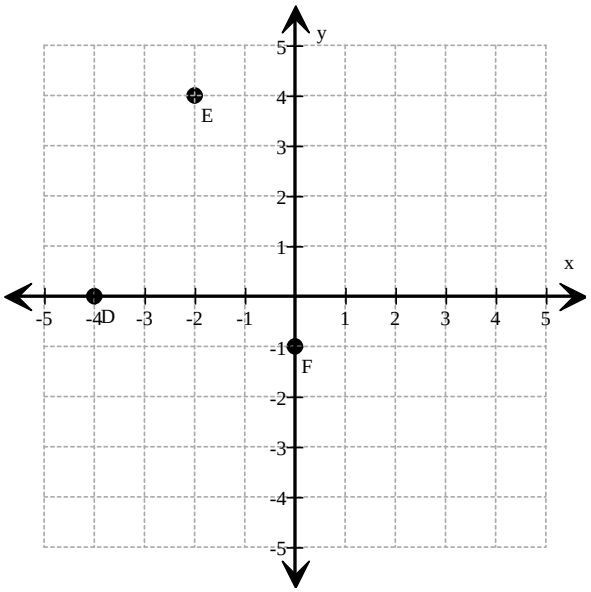




2. Translate ΔABC [-4, 2] and label the image A'B'C'.

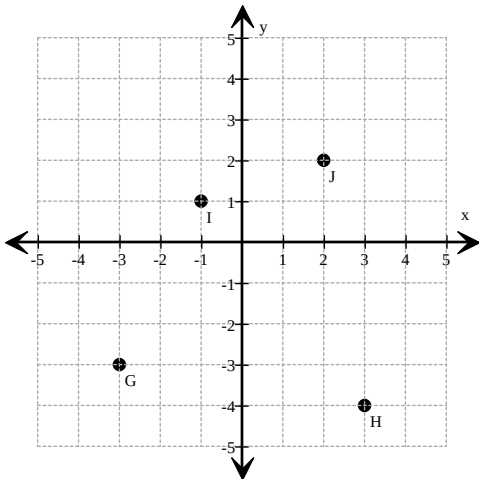


3. Translate ΔDEF [3,-3] and label the image D'E'F'.

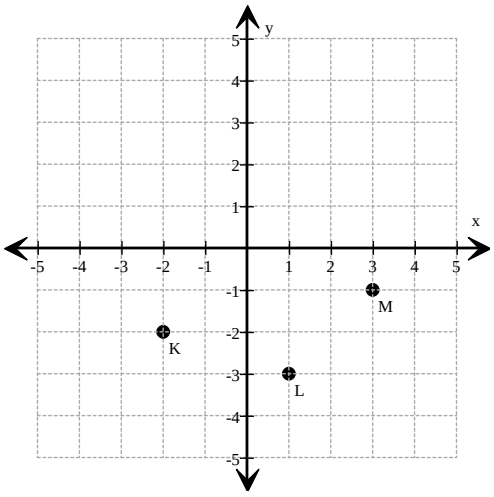


Translations on the Cartesian Plane (Geo)

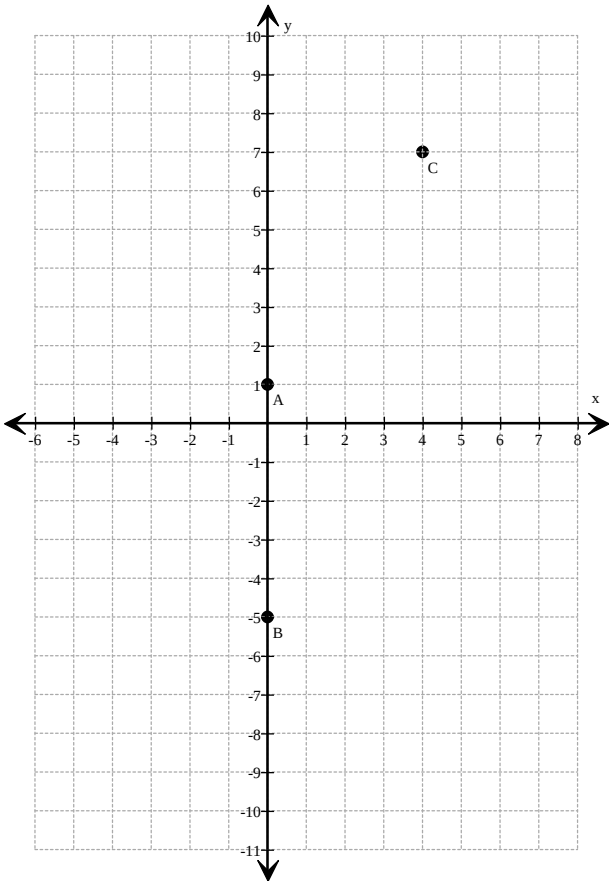
1. Translate □GHIJ [0,+2] and label the image $G'H'I'J'$.



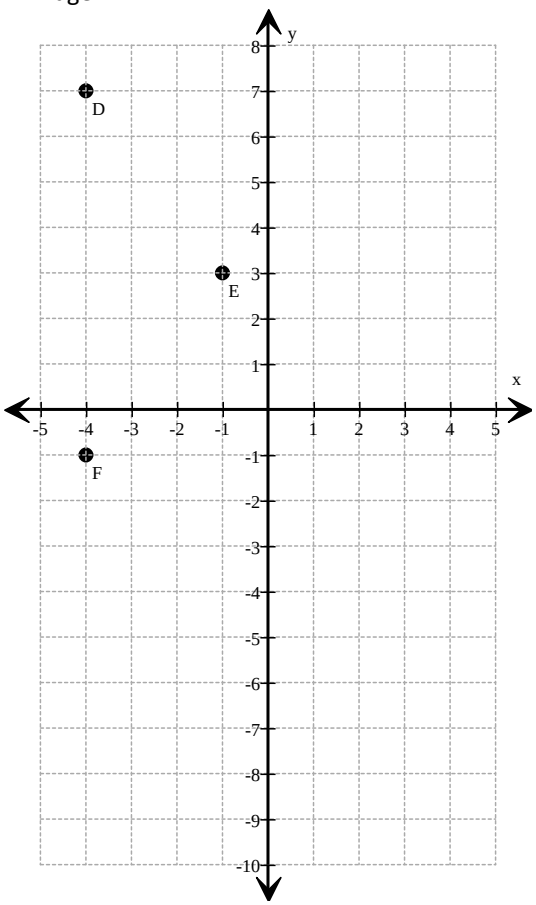
2. Translate ΔKLM [1,-2] and label the image $K'L'M'$. Then, translate $\Delta K'L'M'$ [-2,4] and label the image $K''L''M''$.



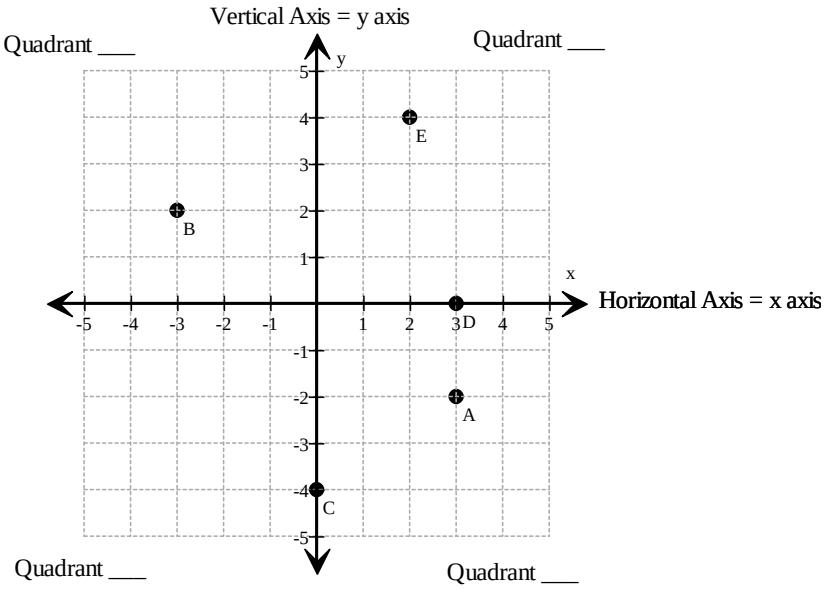
3. Translate ▲ ABC [-4, 3]. Label the image $A'B'C'$. Then, translate ▲ $A'B'C'$ [2, -6]. Label the 2nd image $A''B''C''$.



4. Translate ▲ DEF [6, -8]. Label the image $D'E'F'$. Then, translate ▲ $D'E'F'$ [-7, 4]. Label the 2nd Image $D''E''F''$.



Review of Basics of the Cartesian Plane (Geo)

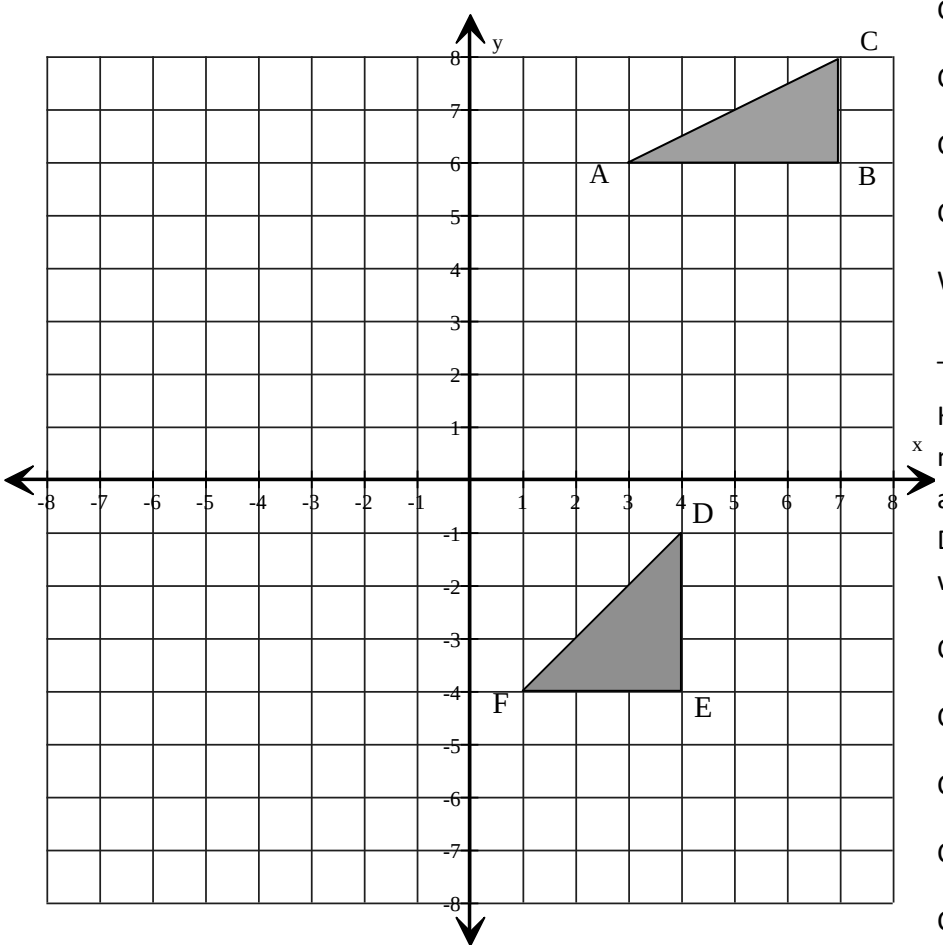


Answer the following questions:

1. Number the Quadrants appropriately.
2. What are the coordinates of B? _____
3. In which quadrant is B in?_____
4. Which point is 3 units to the right of the y axis and two units below the x axis? _____
5. Which point is in Quadrant 4? _____
6. D is in which two Quadrants? _____ and _____
7. What are the coordinates of D? _____
8. Place F(-3,0) on the Cartesian Plane.
9. What would be the translation vector needed to move C to B? [_____, _____]
10. True or False? The translation vector used to move C to D is [4, 3]
11. How many coordinates are 2 units away from the X-axis? _____
12. True or False: Coordinates located in Quadrant 1 have positive X values and negative Y values.
13. True or False: Coordinates located in Quadrant 4 have positive X values and negative Y values.
14. Coordinates in the second Quadrant have _____ x values and _____ y values.
15. Coordinates in the third Quadrant have _____ x values and _____y values.
16. Place G (0, -2) on the Cartesian Plane.

Reflections on the X Axis (Geo)

Reflect triangle ABC on the X-axis. Then, answer the questions/follow the steps below:



Coordinates of A are _____

Coordinates of A' are _____

Coordinates of B are _____

Coordinates of B' are _____

Coordinates of C are _____

Coordinates of C' are _____

What do you notice? _____

_____

Keeping this in mind, we will now create the coordinates for an X-axis reflection for triangle DEF, prior to actually doing the work in the Cartesian Plane.

Coordinates of D are _____

Coordinates of D' will be _____

Coordinates of E are _____

Coordinates of E' will be _____

Coordinates of F are _____

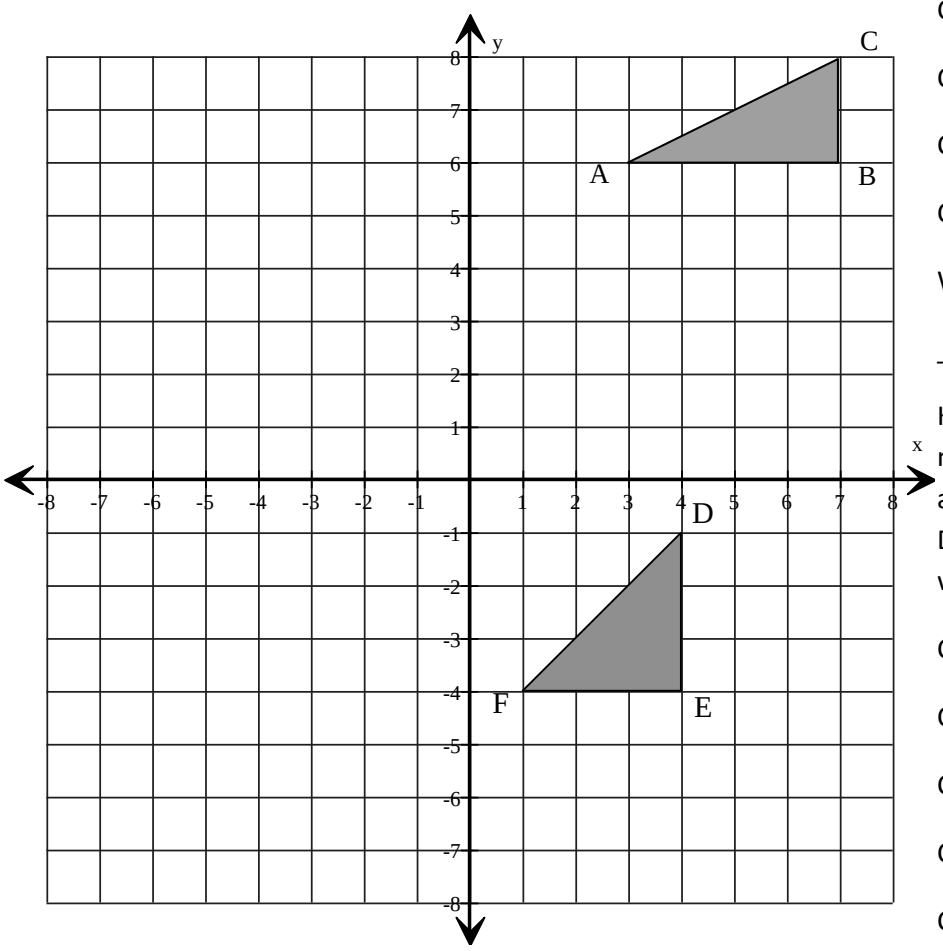
Coordinates of F' will be _____

Place D', E', F' in the graph and join the lines. Did it work? Which method do you prefer?

Conclusion: When reflecting on the X-Axis:

Reflections on the Y Axis (Geo)

Reflect triangle ABC on the Y axis. Then, answer the questions/follow the steps below:



Coordinates of A are _____

Coordinates of A' are _____

Coordinates of B are _____

Coordinates of B' are _____

Coordinates of C are _____

Coordinates of C' are _____

What do you notice? _____

_____

Keeping this in mind, we will now create the coordinates for a Y-axis reflection for triangle DEF, prior to actually doing the work in the Cartesian Plane.

Coordinates of D are _____

Coordinates of D' will be _____

Coordinates of E are _____

Coordinates of E' will be _____

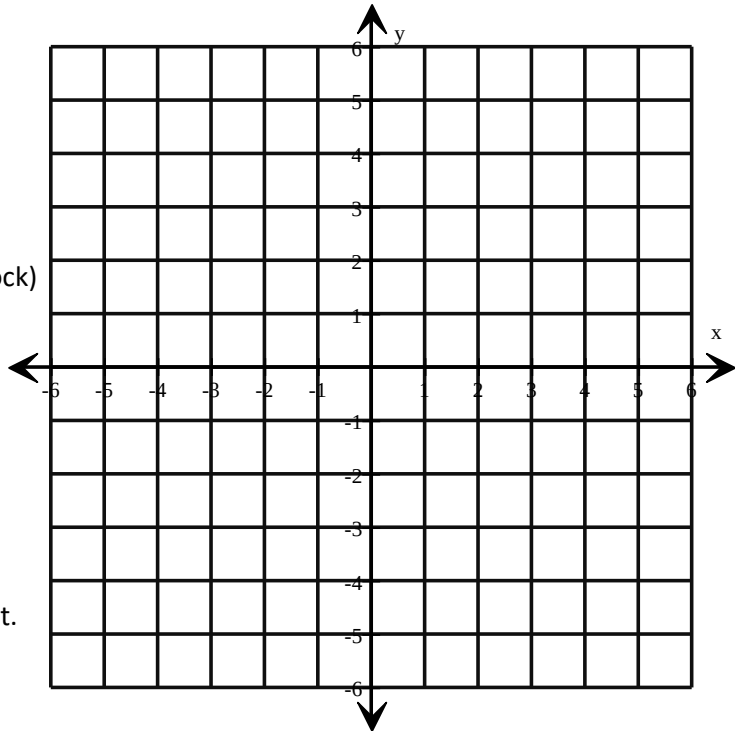
Coordinates of F are _____

Coordinates of F' will be _____

Place D', E', F' in the graph and join the lines. Did it work? Which method do you prefer?

Conclusion: When reflecting on the Y-Axis:

Rotations (Geo)



1. Number your Quadrants (1, 2, 3, 4)

2. Place A(2, 5) on the Cartesian Plane.

* We want to rotate A(2, 5) 90° Clockwise – ¼ turn (which is the direction of how the arms move on a clock) around the origin.

3. Question: In which quadrant will A move to after a 90° Clockwise rotation? Quadrant _____

* Now, our 2 choices are either (2,-5) or (5,-2). Place them both. Then, decide which one of them is correct. Erase the one that is incorrect.

4. After we rotate A(2,5) 90° CW around the origin, the new coordinates are A' (_____, _____).

* We will now repeat the same process as above, beginning again with A(2,5) and rotating 180°CW , or, a ½ turn.

5. In which quadrant will A move to after a 180° CW rotation? Quadrant _____.

* Our 2 choices are either (-2, -5) or (-5, -2). Place them both. Then, decide which one of them is correct. Erase the one that is incorrect.

6. After we rotate A(2,5) 180°CW around the origin, the new coordinates are A'' (_____, _____).

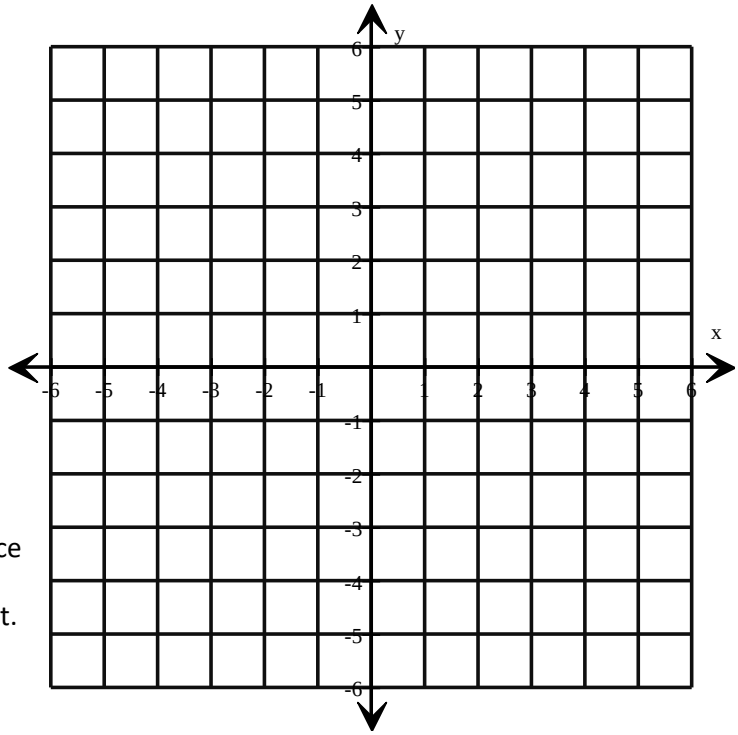
* We will now repeat the same process, beginning again with A(2,5) and rotating 270°CW → ¾ turn.

7. In which quadrant will A move to after a 270°CW rotation? Quadrant _____.

* Our 2 choices are either (-2, 5) or (-5, 2). Place them both. Then, decide which one of them is correct. Erase the one that is incorrect.

8. After we rotate A(2,5) 270°CW around the origin, the new coordinates are A''' (_____, _____).

Rotations (Geo)



1. Number your Quadrants (1, 2, 3, 4)

2. Place B(5, 3) on the Cartesian Plane.

* We want to rotate B(2, 5) 90° counter clockwise – ¼ turn (which is the direction of how the arms move on a clock) around the origin.

3. Question: In which quadrant will B move to after a 90° CCW rotation? Quadrant _____

* Now, our 2 choices are either (-5,+3) or (-3, +5). Place them both. Then, decide which one of them is correct. Erase the one that is incorrect.

4. After we rotate B(5,3) 90° CCW around the origin, the new coordinates are B' (_____, _____).

* We will now repeat the same process as above, beginning again with B(5,3) and rotating 180° CCW , or, a ½ turn.

5. In which quadrant will B move to after a 180° CCW rotation? Quadrant _____.

* Our 2 choices are either (-3, -5) or (-5, -3). Place them both. Then, decide which one of them is correct. Erase the one that is incorrect.

6. After we rotate B(5,3) 180°CCW around the origin, the new coordinates are B'' (_____, _____).

* We will now repeat the same process, beginning again with B(5,3) and rotating 270°CCW → ¾ turn.

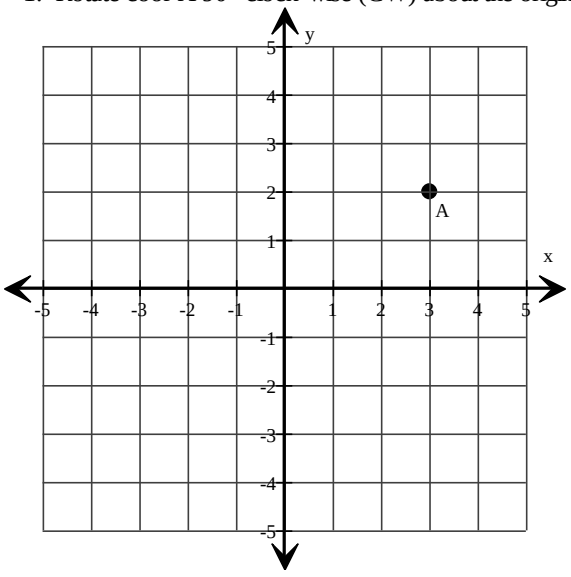
7. In which quadrant will B move to after a 270°CCW rotation? Quadrant _____.

* Our 2 choices are either (5, -3) or (-3, 5). Place them both. Then, decide which one of them is correct. Erase the one that is incorrect.

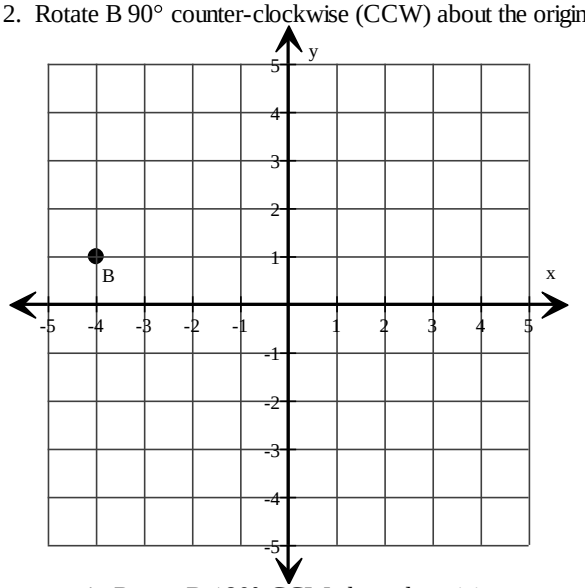
8. After we rotate B(5,3) 270°CCW around the origin, the new coordinates are B''' (_____, _____).

Rotations (Geo)

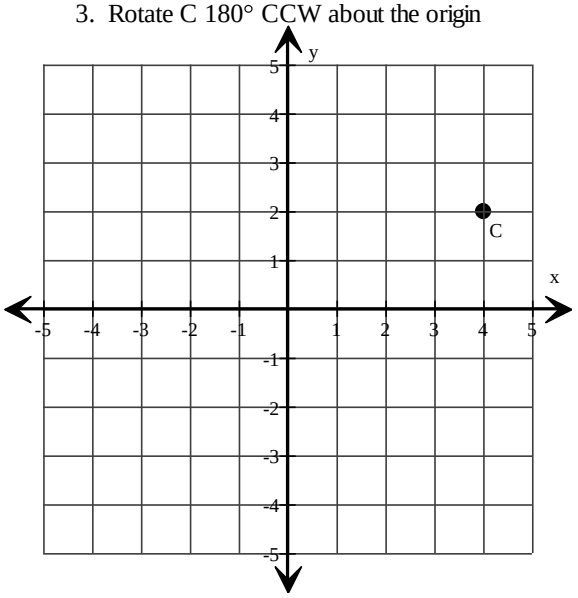
1. Rotate coor A 90° clock-wise (CW) about the origin



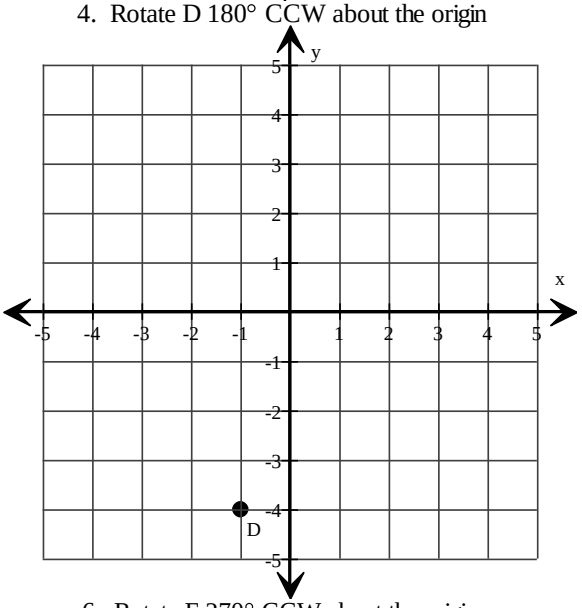
2. Rotate B 90° counter-clockwise (CCW) about the origin



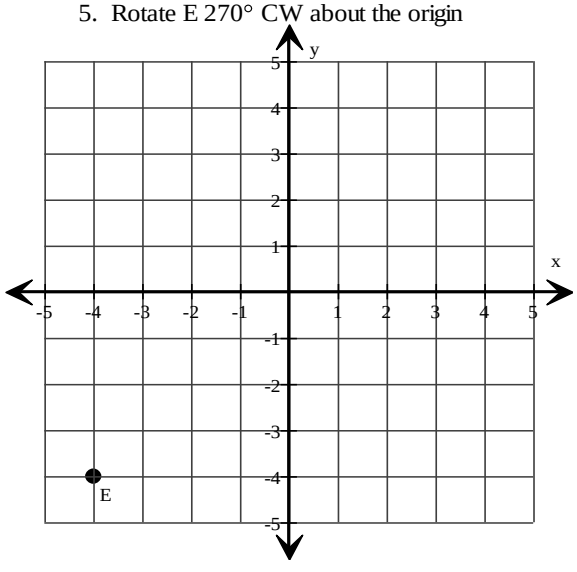
3. Rotate C 180° CCW about the origin



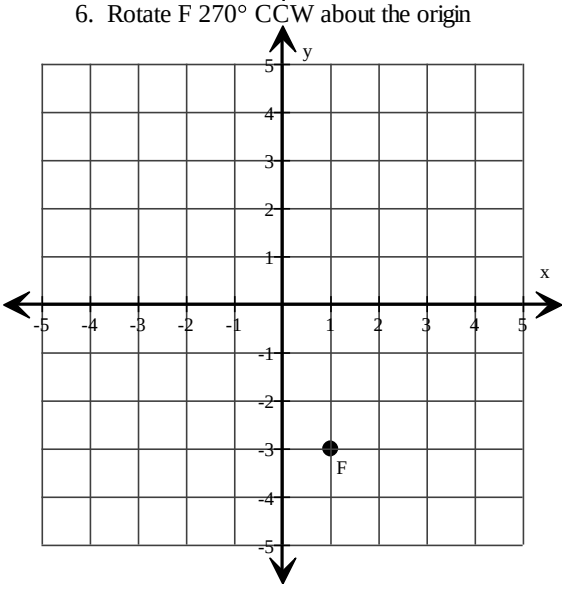
4. Rotate D 180° CCW about the origin



5. Rotate E 270° CW about the origin

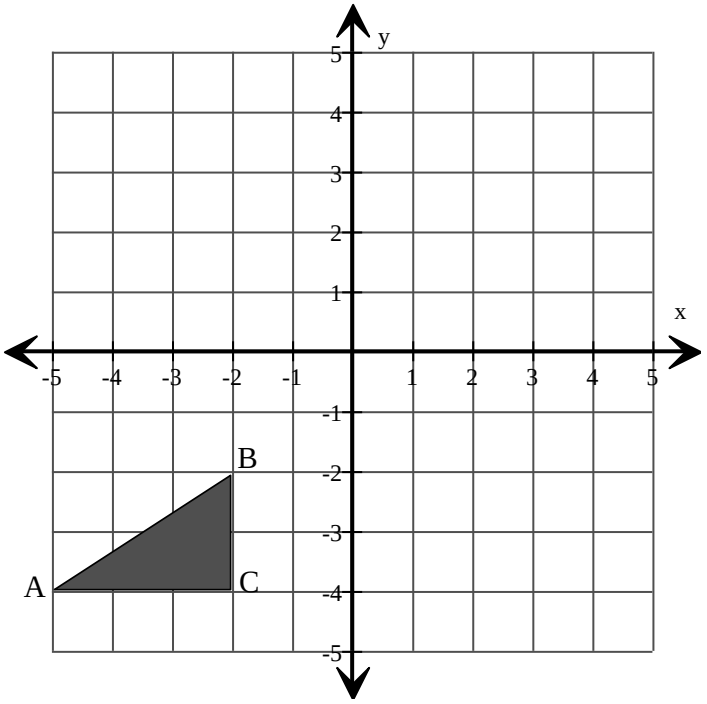


6. Rotate F 270° CCW about the origin

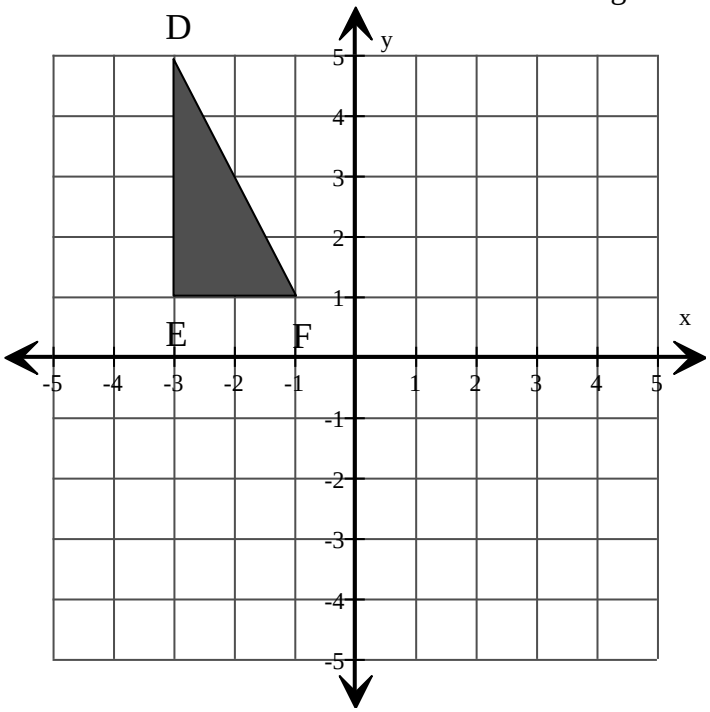


Rotations (Geo)

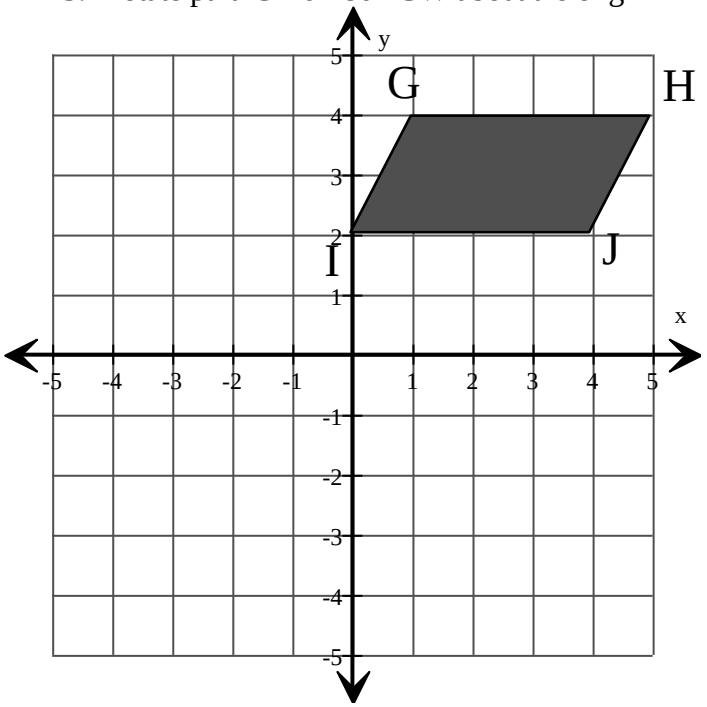
1. Rotate ΔABC 90° CW about the origin



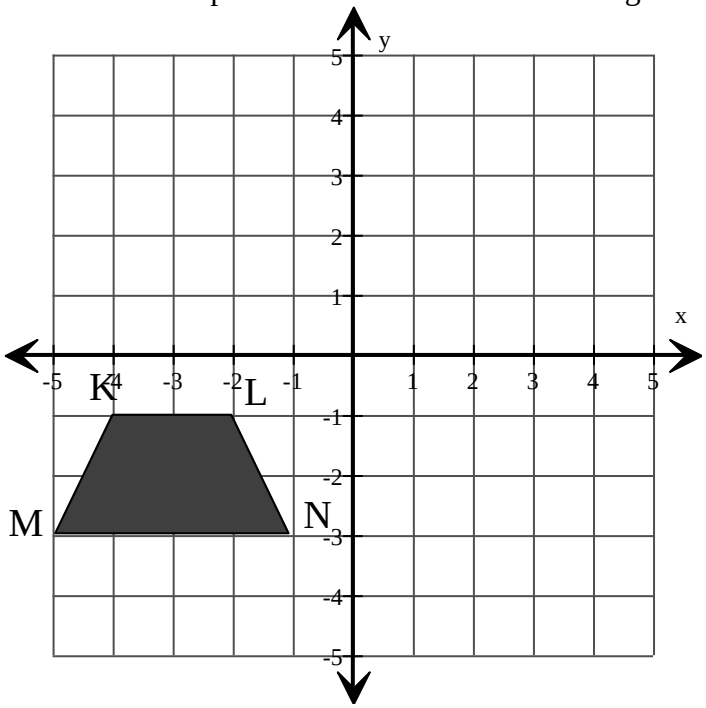
2. Rotate ΔDEF 270° CCW about the origin



3. Rotate para GHIJ 180° CW about the origin



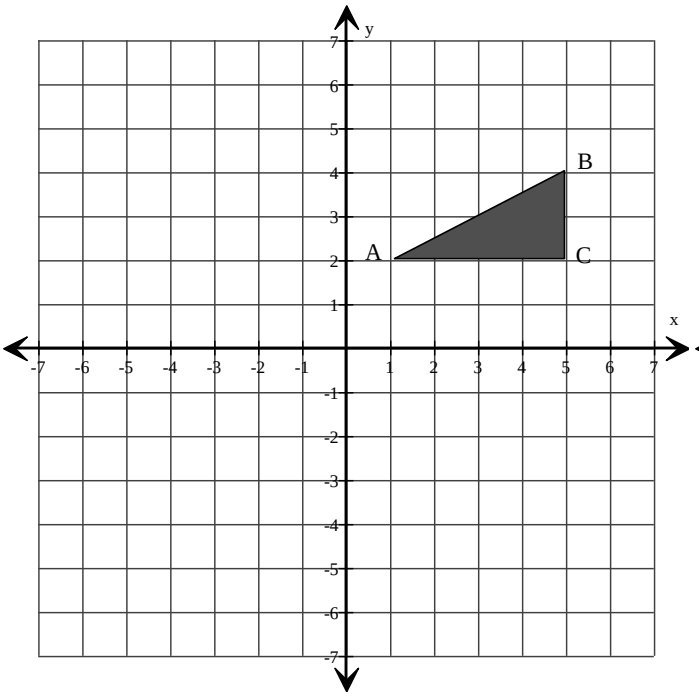
4. Rotate trap KLMN 90° CCW about the origin



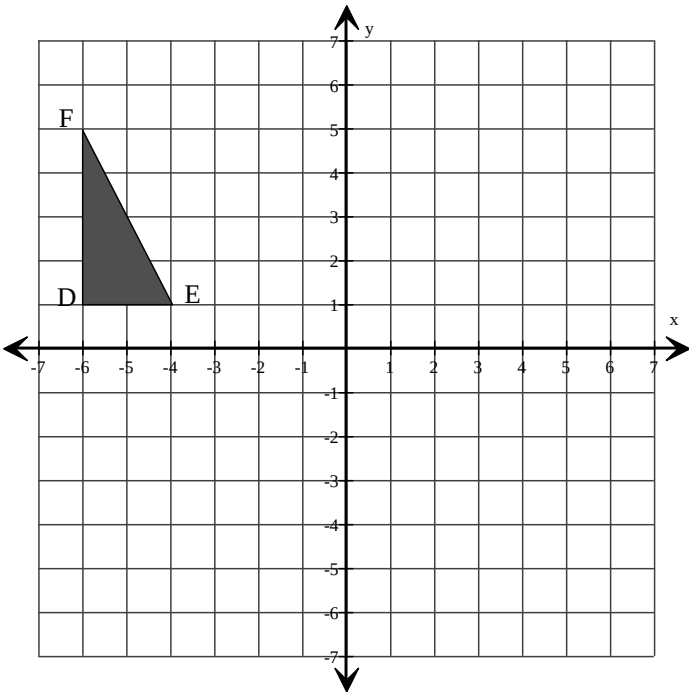
Two & Three Step Transformations ~ Review(Geo)

Draw the image(s) according to instructions:

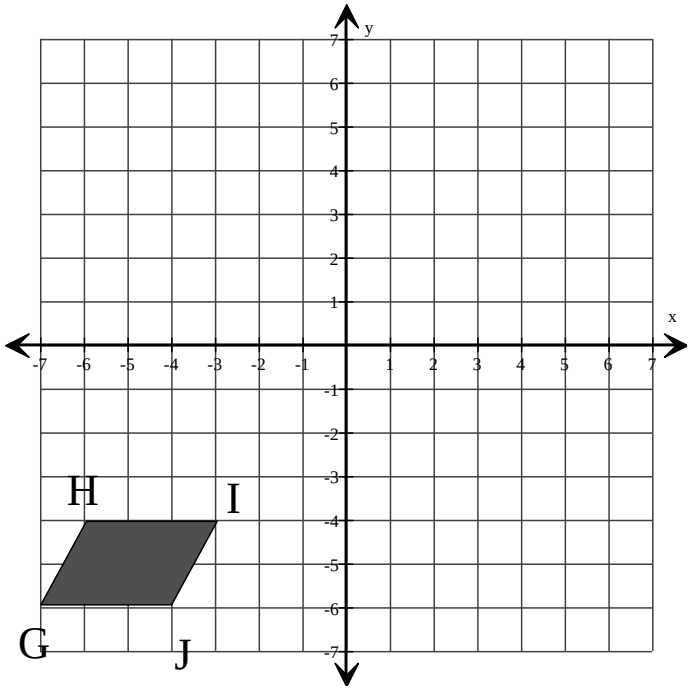
Reflect on the X-axis, then translate [-7, -2]



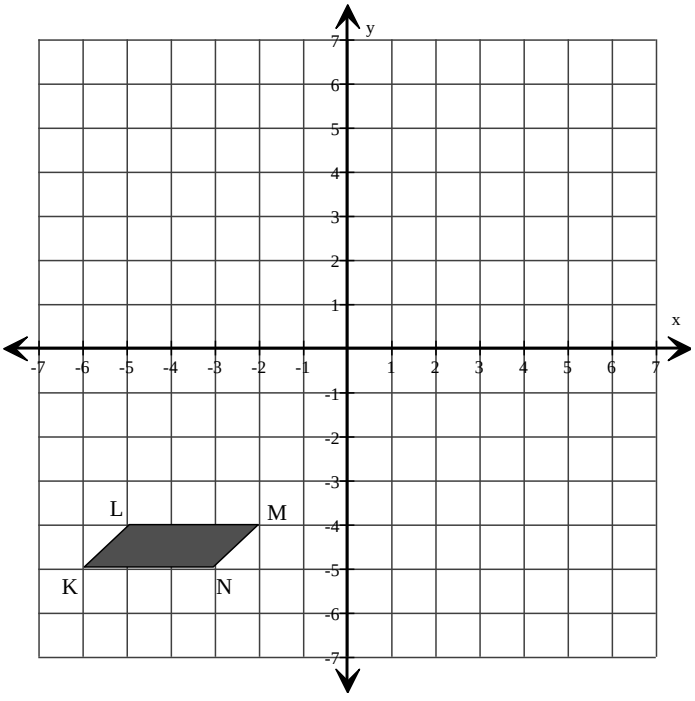
Translate [8, -2] then reflect on X-axis



Rotate 270° CCW around the origin, then reflect on the Y-axis, then translate [-1, -3]



Reflect on the Y-axis, then rotate 180°CW around the origin, then translate [7,-5]



Angle & Triangle Classification - Review(Geo)

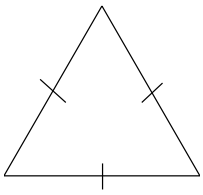
1. Describe the following angles and draw an example of each:

a) Acute: _____ b) Obtuse: _____

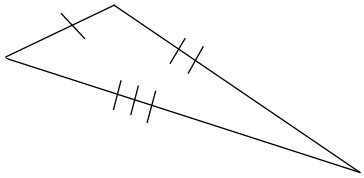
c) Right: _____ d) Straight: _____

e) Reflex: _____

2. Classify each triangle in terms of its interior angles and side lengths.



_____



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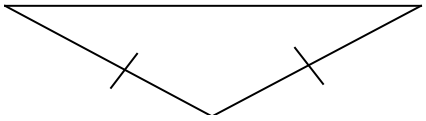
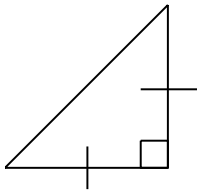
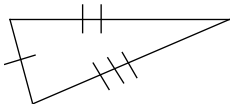


_____

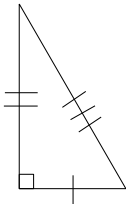
_____ _____ _____



_____



_____



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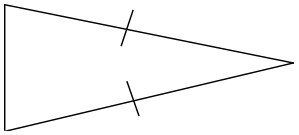


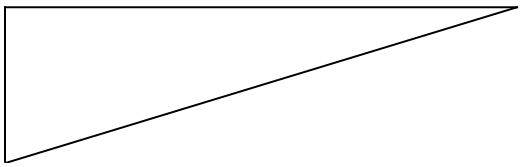
_____

_____ _____ _____ _____

Congruent & Similar Shapes ~ Review(Geo)

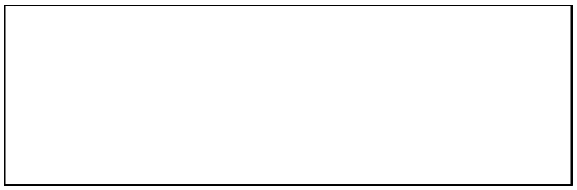
1. a) What does it mean when 2 polygons are CONGURENT?_____

   b) Draw a CONGRUENT triangle to the one below:

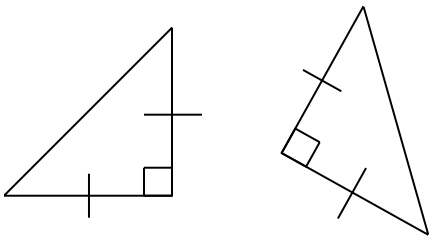


2. a) What does it mean when 2 polygons are SIMILAR? _____

   b) Draw two SIMILAR rectangles:



3. Consider the two following triangles:



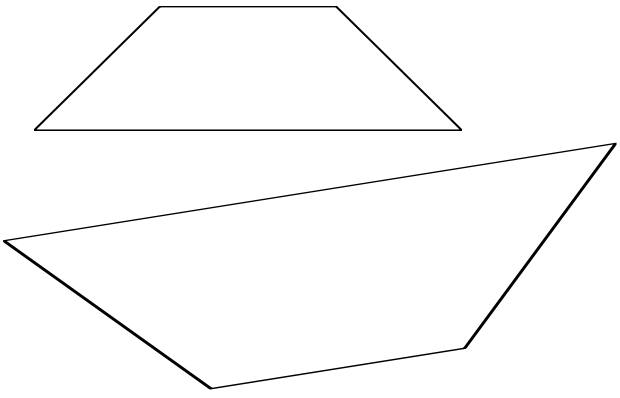
   True or False?

   a) They are congruent: _____ b) They are similar: _____

4. Consider the two following trapezoids:

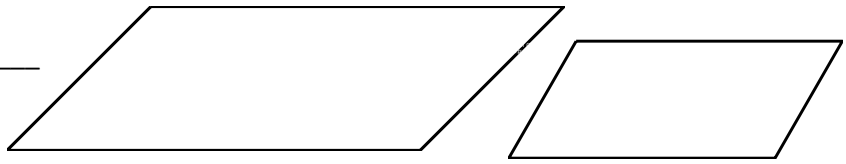
   a) They are congruent: _____

   b) They are similar: _____



Congruent & Similar Shapes ~ Review(Geo)

1. Consider the two following trapezoids:



   a) They are congruent: _____

   b) They are similar: _____

Triangle Congruency

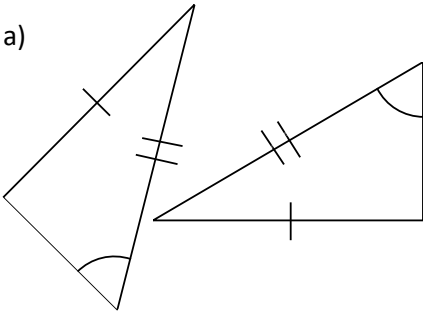
There are 3 ways we can prove that triangles are CONGRUENT:

SSS - SAS – ASA - AAS

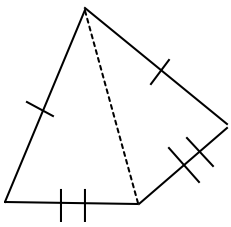
WATCH: www.khanacademy.org/math/geometry/congruent-triangles/cong_triangle/v/other-triangle-congruence-postulates

2. State if the triangles are congruent. Prove by using SSS, SAS, ASA or AAS.

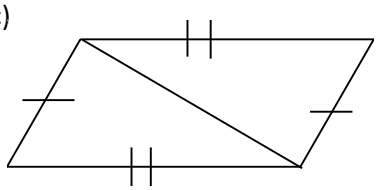
a)



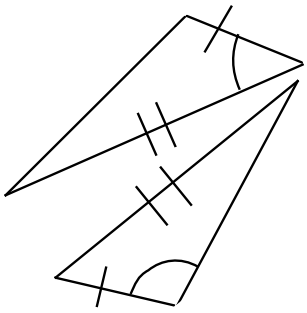
b)



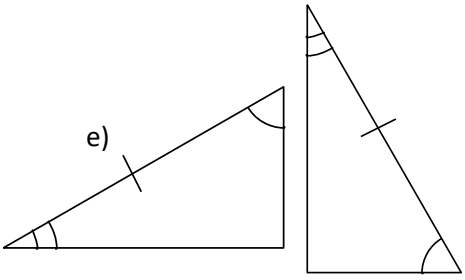
c)



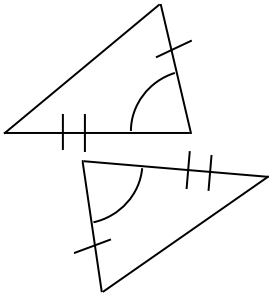
d)



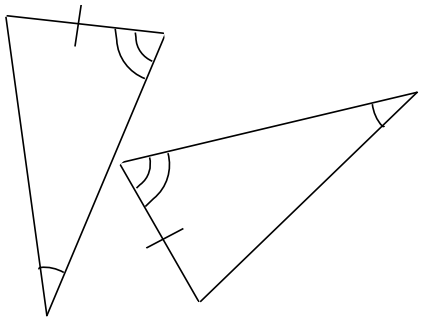
e)



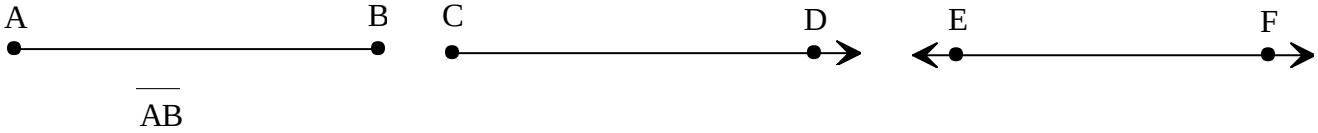
f)



g)



Line Segments, Rays & Lines (Geo)

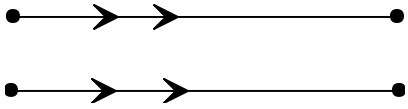


Line segments terminate (end) at a point at each end

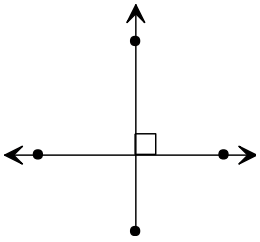
Rays start at a point and go on to infinity at the other end.

Lines go on to infinity at both ends.

Parallel & Perpendicular Lines – Review (Geo)



Parallel lines/rays/line segments are equidistant from each other at all times. They will never touch. There are matching arrow on sets of parallel lines/rays/line segments.



Perpendicular lines/rays/line Segments intersect at 90°.

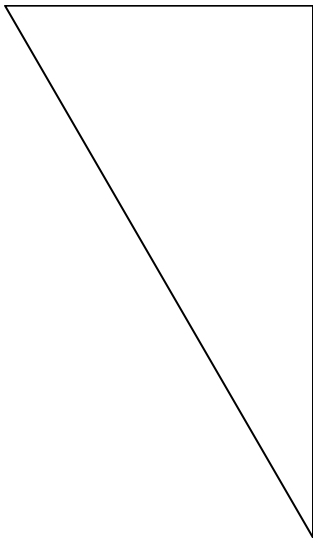
1. Using a compass and a ruler, draw $\overline{AB}$ perpendicular to $\overrightarrow{CD}$

2. Using a compass and a ruler, draw $\overleftrightarrow{EF}$ parallel to $\overrightarrow{CD}$

Dilations (Geo)

1. Using a scale factor of 3, draw a similar rectangle:

2. Using a scale factor of ½, draw a similar triangle:



3. Using a scale factor of 2, draw a similar trapezoid:

Algebraic Expressions (Patterning & Algebra)

1. Write an expression for each statement:

a) a number decreased by 5 _____

b) the sum of 6 and a number _____

c) a number increased by 3 _____

d) 4 divided by a number _____

e) 7 multiplied by a number _____

f) a number divided by 2 _____

g) a number subtracted from 10 _____

2. Write each of the following using symbols:

a) *x* multiplied by 9 _____

b) 12 divided by *n* _____

c) 11 increased by *z* _____

d) *y* decreased by 5 _____

e) the product of 6 and *m* _____

f) the quotient of *h* and 10 _____

g) the difference between *k* and *y* ____

3. The variable "y" represents a number. Write, in 2 different ways, the words that can be represented by each expression.

a) y – 2: _____ _____

b) y + 3: _____ _____

c) 9y: _____ _____

d) y ÷5: _____ _____

e) 8 + m: _____ _____

f) (4 ÷ y) – 1: _____ _____

4. Write an expression for each of the following statements:

a) Maurice's height decreased by six centimeters: _____

b) Eight times the number of horses: _____

c) Jayne's age four years from now: _____

d) An amount of money divided by three: _____

e) One-quarter the width of the desk: _____

f) Two sizes smaller than Mario's shoe size: _____

g) $18.00/h for the number of hours worked: _____

Solving Equations by Trial/Error and by Balancing (Patt & Alg)

1. On the left side, solve (find the value of the variable) by guessing and/or trial & error. On the right side, solve using balancing. Use a different color pencil to clearly show balancing!

	Guessing / Trial & Error	**Showing Balancing**	**Using Balancing Shortcut**
a)	a + 6 = 16	a + 6 = 16	a + 6 = 16
b)	b – 10 = 25	b – 10 = 25	b – 10 = 25
c)	14 = c + 8	14 = c + 8	14 = c + 8
d)	37 = d - 22	37 = d - 22	37 = d - 22
e)	13 + e = 51	13 + e = 51	13 + e = 51
f)	47 = f - 29	47 = f - 29	47 = f - 29

Solving Equations by Balancing With + and - (Patt & Alg)

1. Solve using balancing. Don't forget to add in boxes or a different color to clearly show balancing.

a) $a + 7 = 21$

b) $b - 8 = 15$

c) $12 = c + 5$

d) $36 = d - 16$

e) $12 + e = 56$

f) $56 = f - 7$

g) $g + 10 = 40$

h) $f - 5 = 23$

i) $22 = i + 17$

j) $44 = j - 13$

k) $19 + k = 36$

l) $41 = l - 17$

m) $m + 16 = 20$

n) $n - 24 = 5$

o) $59 = m + 8$

p) $85 = p - 15$

q) $20 + q = 46$

r) $37 = r - 25$

s) $8 = 5 + s$

t) $45 = 25 + t$

u) $12 + u = 17$

v) $34 + v = 32$

w) $56 = 12 + w$

x) $27 + x = 44$

Solving Equations by Balancing With x and ÷ (Patt & Alg)

1. On the left side, solve (find the value of the variable) by guessing and/or trial & error. On the right side, solve using balancing. Use a different color pencil to clearly show balancing!

	Guessing / Trial & Error	**Balancing**	**Using Balancing Shortcut**
a)	$6a = 60$	$6a = 60$	$6a = 60$
b)	$\frac{b}{10} = 7$	$\frac{b}{10} = 7$	$\frac{b}{10} = 7$
c)	$8c = 56$	$8c = 56$	$8c = 56$
d)	$\frac{d}{5} = 8$	$\frac{d}{5} = 8$	$\frac{d}{5} = 8$
e)	$42 = 6e$	$42 = 6e$	$42 = 6e$
f)	$12 = \frac{f}{5}$	$12 = \frac{f}{5}$	$12 = \frac{f}{5}$

Solving Equations by Balancing With x and ÷ (Patt & Alg)

1. Solve using balancing. Don't forget to add in boxes or a different color to clearly show balancing.

a) $5a = 30$

b) $7b = 77$

c) $56 = 8c$

d) $\frac{d}{3} = 12$

e) $\frac{e}{4} = 9$

f) $4 = \frac{f}{5}$

g) $9g = 81$

h) $3h = 36$

i) $100 = 2i$

j) $\frac{j}{5} = 35$

k) $\frac{k}{12} = 2$

l) $6 = \frac{l}{3}$

m) $144 = 12m$

n) $10n = 130$

o) $32 = 80$

Solving Equations by 2 Step Balancing +, -, x and ÷ (Patt & Alg)

1. Solve using balancing. This will be a 2-step process. Don't forget to work in "reverse BEDMAS".

a) $2a - 4 = 12$ b) $4a + 6 = 18$ c) $3a - 8 = 22$

d) $2a - 10 = 32$ e) $4a + 11 = 51$ f) $3a - 3 = 12$

g) $20 = 7a - 8$ h) $8 = 12a - 16$ i) $30 = 8a + 14$

j) $45 = 5a - 10$ k) $50 = 6a - 10$ k) $100 = 4a + 60$

l) $11a - 8 = 36$ m) $46 = 7a - 10$ n) $83 = 9a + 11$

Solving Equations by 2 Step Balancing +, -, x and ÷ (Patt & Alg)

1. Solve using balancing. This will be a 2-step process. Don't forget to work in "reverse BEDMAS".

a) $3x - 6 = 16$

b) $4m + 11 = 46$

c) $46 = 5g - 7$

d) $68 = 4m + 13$

e) $7p - 19 = 19$

f) $84 = 3q + 53$

g) $6b + 34 = 34$

h) $100 = 8x + 19$

i) $124 = 9x - 40$

j) $5 + 5m = 15$

k) $46 = 9 + 12h$

l) $8 + 8s = 59$

m) $15 = 6 + 11a$

n) $16 = 5a + 72$

o) $16 + 7w = 54$

Solving Equations by 2 Step Balancing +, -, x and ÷ (Patt & Alg)

1. Solve using balancing. This will be a 2-step process. Don't forget to work in "reverse BEDMAS".

a) $\frac{x}{2} - 6 = 2$

b) $\frac{m}{3} + 18 = 26$

c) $6 = \frac{g}{4} - 7$

d) $8 = \frac{m}{2} + 5$

e) $\frac{p}{4} - 9 = 1$

f) $4 = \frac{q}{3} + 3$

g) $12 = \frac{m}{4} + 5$

h) $\frac{p}{2} - 8 = 10$

i) $14 = \frac{q}{3} + 2$

j) $20 = \frac{m}{5} + 18$

k) $\frac{p}{6} - 10 = 15$

l) $24 = \frac{q}{7} + 15$

Solving Equations by 3 Step Balancing +, -, x and ÷ (Patt & Alg)

1. Solve using balancing. This will be a 2-step process. Don't forget to work in "reverse BEDMAS".

a) $\frac{2x}{3} - 6 = 2$

b) $\frac{3m}{2} + 18 = 27$

c) $6 = \frac{8g}{4} - 10$

d) $13 = \frac{10m}{5} + 5$

e) $\frac{5p}{4} - 9 = 1$

f) $24 = \frac{6q}{2} + 3$

g) $10 = \frac{5m}{6} + 5$

h) $\frac{10p}{2} - 10 = 10$

i) $14 = \frac{6q}{3} + 2$

j) $20 = \frac{4m}{10} + 18$

k) $\frac{5q}{2} - 10 = 15$

l) $24 = \frac{4q}{6} + 16$

Review of Integers – for Algebraic Balancing (Nsn & Alg)

1. Review of addition and subtraction of integers (in preparation for balancing with negative integers):

a) 8 – 4 = _____

b) (-5) + 3 = _____

c) 3 – 8 = _____

d) -6 + (+5) = _____

e) (-7) + (+4) = _____

f) 6 – 12 = _____

g) -4 – 8 = _____

h) +5 – 13 = _____

i) 2 – 9 = _____

j) 0 – 7 = _____

k) -9 + 3 = _____

l) -2 + 7 =_____

m) (-8) – (-6) = _____

n) -8 + 6 = _____

o) +4 – 15 =_____

p) -5 – (+6) = _____

q) +6 - 10 = _____

r) 4 – (-4) = _____

s) -3 – (-7) = _____

t) -7 + (-3) = _____

u) 7 – (-5) = _____

v) -4 – (+6) = _____

w) 4 + (-9) = _____

x) +5 + (-7) = _____

y) -1 – (-1) = _____

z) -8 + (+9) = _____

aa) 3 – (-3) = _____

bb) -9 – (-6) = _____

cc) 6 – 13 = _____

dd) -6 + 15 = _____

Algebraic Balancing With Integers (Alg)

1. Solve, using balancing. Use steps taught in class! These are one-step balancing questions. After solving your equations, check your answer (Substitute your answer into original equation and check if left side = right side)

a) $a - 7 = -3$

Check:

b) $9 + b = 5$

Check:

c) $c - 4 = -10$

Check:

d) $d - 5 = -11$

Check:

e) $-8 + e = -20$

Check:

f) $f + 9 = 0$

Check:

g) $3m - 18 = -12$

Check:

h) $-16 = 2w - 14$

Check:

i) $4a - 32 = -12$

Check:

j) $\frac{j}{5} - 12 = -4$

Check:

k) $\frac{k}{5} - 6 = -4$

Check:

m) $-3 = 6m - 21$

Check:

Algebraic Balancing With Integers (Alg)

n) $-2 = 2n - 10$

Check:

p) $-4 = 3p - 16$

Check:

q) $-5 = -13 + q$

Check:

r) $-6 = \frac{r}{2} - 14$

Check:

s) $-1 = 12s - 23$

Check:

t) $-3 = \frac{2t}{4} - 4$

Check:

u) $4 = \frac{2u}{8} - 2$

Check:

v) $-2 = \frac{v}{15} - 6$

Check:

w) $-8 = 3w - 16$

Check:

Rates & Ratios

1. Find the unit rate.

a) If 5 apples costs $1.75, how much for one apple? _____

b) If Josie walked 6.2 km in 2 hours, what distance did she walk in one hour? _____

c) Marty made $45 for a 4-hour shift at work. What does she make per hour? _____

d) 12 cans of soda costs $3.96. How much is one can worth? _____

e) Rebecca paid $8.28 for a bag of 35 candies at Pulk Parn. How much is each candy worth? _____

2. Using your answers in #1, answer the following questions:

a) How much would you therefore pay for 18 apples? _____

b) Walking at the same speed, what distance would Josie walk in 5 hours? _____

c) If Marty worked a 7.5 hour shift, how much would he make? _____

d) If you purchased 35 cans of soda for your party, how much would it cost? _____

e) If Rebecca's friend, Taylor, bought 44 of the same candies, how much would it cost? _____

3. Using the same method as in questions 1 and 2, solve the following:

a) If 6 pears cost $2.64, how much for 25 pears? _____

b) If Eva walked 9.6km in 3 hours, what distance would she walk in 13 hours, assuming she kept walking at the same speed?_____

c) Patrick made $36.33 for a 3-hour shift at work. How much would he make for a 9-hour shift?*

_____

d) 8 cans of KolaKoca sell for $1.68. How much would 32 cans cost?* _____

e) Ally paid $3.95 for 5 chocolate bars. How much would 32 bars cost? _____

Multiplication and Division of Integers (Nsn)

a) (+5) x (– 6) = _____ b) (-4) x (+ 9) = _____ c) (+3)(+7) =_____

d) (-6)(6) = _____ e) (-8) x (-4) = _____ f) (3)(5) = _____

g) (-1) x (– 7) = _____ h) (+2)(-4) = _____ i) (-5) x (+5)= _____

j) (0)(-7) = _____ k) (+8) ·(-4) = _____ l) (+8) · (– 1) = _____

m) (+5)(–7) = _____ n) (8)(-9) = _____ o) (10) · (-6) = _____

p) (-12) · (-7) = _____ q) (-7)(11) = _____ r) (-9)(+8) = _____

t) (-15) ÷ (+5) = _____ u) (64) ÷ (-8) = _____ v) (-108) ÷ (-12)= ___

w) (36) ÷ (-3) = _____ x) (21) ÷ (-7) = _____ y) (-121) ÷ (-11) =___

z) (+56) ÷ (8) = _____ aa) (-42) ÷ (7) = _____ bb) (30) ÷ (-6) = ____

cc) (144) ÷ (-12) = _____ dd) (72) ÷ (-8) = _____ ee) (-32) ÷ (+8) = ___

ff) (0) ÷ (-7) = _____ gg) (-14) ÷ (-2) = _____ hh) (-150) ÷ (-10) =__

Order of Operations ~ Integers (Nsn)

1. Solve, using BEDMAS. Remember, solve only one operation per line!

a) (-6) + (10) ÷ (-2)

=

=

b) (-6) – (-10)(2)

=

=

c) (-8)·(-3) + (2)(-12)

=

=

=

d) (+3) + (-7) + (-2)

=

=

e) (+13) (-1) (2) – (+6)

=

=

=

f) (+35) – (+6) · (3)

=

=

g) (-3) + (-15) ÷ (+3)

=

=

h) (-45) ÷(-9) + (3)(-5)

=

=

=

i) (-5) – (4) + (-3) x (-3)

=

=

=

j) (-7) + (+6)(-4) ÷ (-3)

=

=

=

k) -6 + (5)(-6) ÷ (-10) – (-9)

=

=

=

=

l) (-5) – (-8) – (-4)(+6)

=

=

=

m) 20 · (+5) ÷ (-10) + (-10)

=

=

=

n) (-6) + (-8)(+2) ÷ (-4) + (+10)

=

=

=

=

o) (-4)(+4)÷(-8)·(100)(0)

=

=

=

=

Review of Powers and Roots (NSN)

Calculate the standard value of each power, without using a calculator. Writing out the repeated multiplication may help you.

2^4 4^3 1^{15} 10^4 8^0 5^3 2^6

Calculate the standard value of each power without using a calculator.

$\sqrt{121}$ $\sqrt{64}$ $\sqrt{81}$ $\sqrt{1}$ $\sqrt{16}$ $\sqrt{100}$

Order of Operations – BEDMAS - With Integers, Powers and Roots (NSN)

1. Solve using the BEDMAS technique. You must use the pre-set number of lines!

a) $-40 \div (2^2 \bullet -5)$

=

=

=

b) $-14 + 7 - \sqrt{81} \times (-2)$

=

=

=

=

c) $-3 (3^2 \div 3) + 12$

=

=

=

=

d) $-10^2 \div 4 - 5 \bullet 2$

=

=

=

=

e) $-99 - \sqrt{9} \times -30 - 3 \bullet 3$

=

=

=

=

=

f) $39 \div (-10 + -3) - 2^4$

=

=

=

=

Order of Operations – BEDMAS - With Integers, Powers and Roots (NSN*)

1. Solve using the BEDMAS technique.

a) $5 + (\sqrt{64} - \sqrt{25}) \times 3^2 \div (-\sqrt{9})$

b) $4^2 \div (\sqrt{36} - 32 \div 2^2) - \sqrt{16}$

c) $6^2 \div \sqrt{144} - (-15) - \sqrt{121} \bullet (-2)$

d) $(3^3 - 4^2) - 2^2 (-2 - 3)$

e) $-7^2 \div (11 - \sqrt{16}) + 3$

f) $\sqrt{25} + -8 \times 2 - 2^2 \div (-2)$

g) $8 - 30 \div 15 + \sqrt{9} \bullet 4$

g) $4^2 \div (\sqrt{36} - 2^3 \div \sqrt{16}) - 2^2$

h) $(4^3 - 5^3 \div \sqrt{25}) \div (21 + (-9) \bullet 2^3 \div 2^2)$

Tigers in the 'Plane' ~ Review on Placing Points on the Cartesian Plane (Geo)

On a Cartesian Plane, plot the coordinates according to instructions**. NOTE: All point go into ONE drawing!+**

Tigers in the 'Plane' ~ Review on Placing Points on the Cartesian Plane (Geo)

Continued

Tuesday, May 26, 2015
Review – Math Grade 7 – Triangle Congruency using SSS, SAS, ASA, AAS

1. Which of the following cannot be used to prove that two triangles are congruent?

a. AAS congruence postulate

b. SAS congruence postulate

c. SSS congruence postulate

d. AAA congruence postulate

2. Which pair of triangles shows congruency by the SAS postulate?

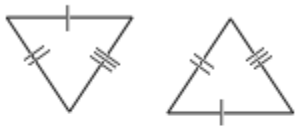


Figure A

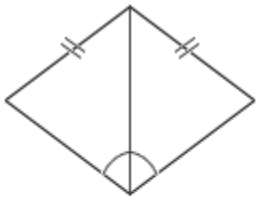


Figure B

Figure C

Figure D

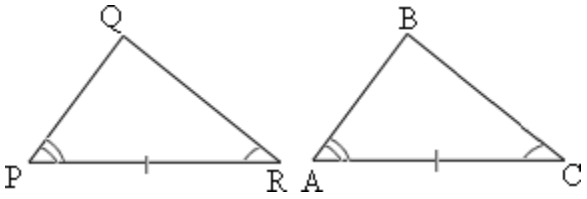
a. Figure D

b. Figure C

c. Figure B

d. Figure A

3. Which postulate can be used to prove the triangles congruent?



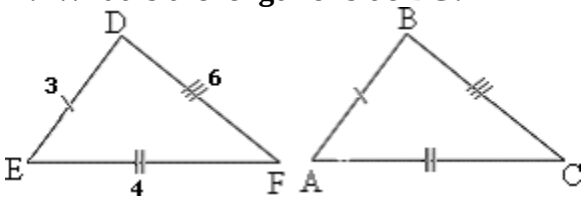
a. ASA postulate

b. SSS postulate

c. SAS postulate

d. AAS postulate

4. What is the length of side BC?



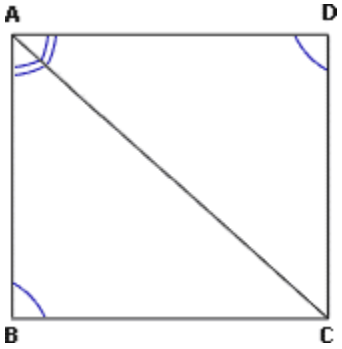
a. 3 units

b. 6 units

c. 4 units

d. 2 units

5. Which of the following can be used to prove that ΔABC is congruent to ΔADC ?



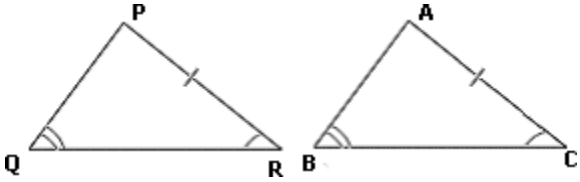
a. ASA postulate

b. SAS postulate

c. AAS postulate

d. SSS postulate

6. Which of the following can be used to prove Δ PQR is congruent to ΔABC ?



a. SSS postulate

b. ASA postulate

c. SAS postulate

d. AAS postulate

7. Which of the following sets of triangles are congruent?

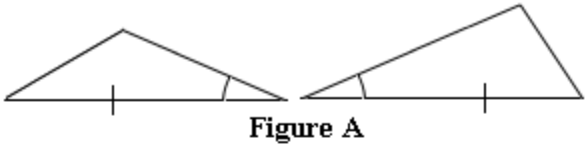


Figure A

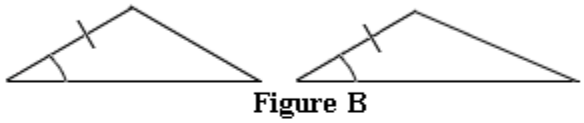


Figure B

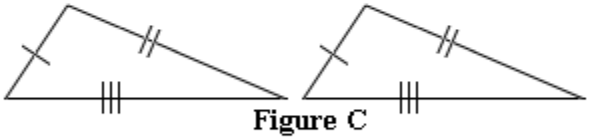


Figure C

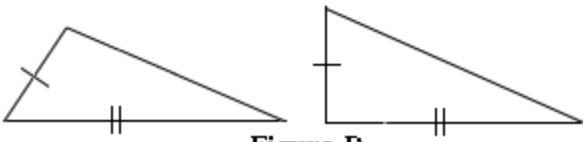


Figure D

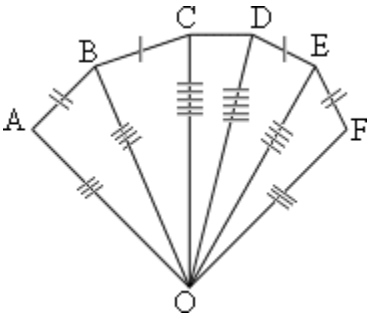
a. Figure D

b. Figure B

c. Figure A

d. Figure C

8. Which of the two sets of triangles in the given figure are congruent?



a. ΔOAB, ΔOEF & ΔOBC, ΔOCD

b. ΔOAB, ΔOBC & ΔODE, ΔOEF

c. ΔOAB, ΔOFE & ΔOBC, ΔOED

d. ΔOBC, ΔOCD & ΔODE, ΔOEF

9. Which pair of triangles is congruent by the SAS postulate?

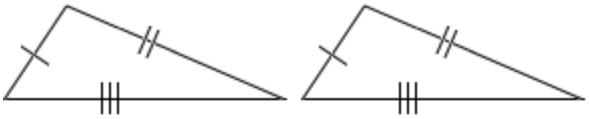


Figure 1

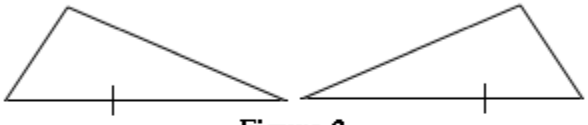


Figure 2

Figure 3

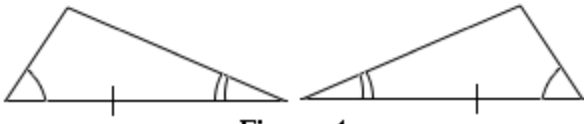


Figure 4

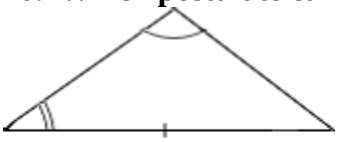
a. Figure 1

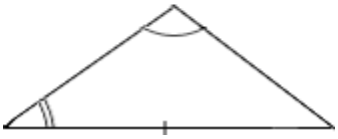
b. Figure 3

c. Figure 4

d. Figure 2

10. Which postulate can be used to prove the triangles congruent?





a. SAS postulate

b. AAS postulate

c. SSA postulate

d. ASA postulate

Review – Math Grade 7 – Dilations

1. Dilate this shape using a scale factor of 4:

2. Dilate this shape using a scale factor of 1/5:

3. Dilate this shape using a scale factor of 3: