

Grade

8

# Geometry

## Exam

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Hour: \_\_\_\_\_

**8th Grade Mathematics Geometry**

**8.G.1** Explain how you can move from Figure A to each congruent figure by translating, reflecting, or rotating.

Figure A B C D E

**8.G.2** Describe the sequence between the two congruent figures. Note: The pre-image is on the left and image on the right.

State: false. congruent.

**8.G.3** If the figure shown were reflected over the x-axis, what would be the new coordinate of:

Point W: \_\_\_\_\_

Point Z: \_\_\_\_\_

**8.G.4** Determine if the following scale factors would be an enlargement or a reduction.

1. \_\_\_\_\_ Scale Factor: 4

2. \_\_\_\_\_ Scale Factor:  $\frac{1}{2}$

3. \_\_\_\_\_ Scale Factor: 0.35

4. \_\_\_\_\_ Scale Factor:  $\frac{11}{n}$

5. \_\_\_\_\_ Scale Factor: 3.7

**8.G.5** Find the  $m\angle CDE$

**8.G.6** Determine whether the triangle with the given side lengths is a right triangle.

A) 11, 11, 15

B) 6, 8, 10

**8.G.4** Determine if the following statements are true or false. If the statement is false provide an example of why.

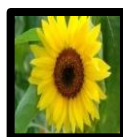
1. All similar figures are also congruent figures.

2. All congruent figures are also similar figures.

**8.G.5** Find the value of x. Show all your work.

**8.G.6** Determine whether the triangle with the given side lengths is a right triangle.

2 QUESTIONS PER STANDARD



By: Math in the Midwest

# 8<sup>th</sup> Grade Mathematics

## Geometry

8.G.1

Explain how you can move from Figure A to each congruent figure by translating, reflecting, or rotating.



8.G.1

A. What stays the same after a:

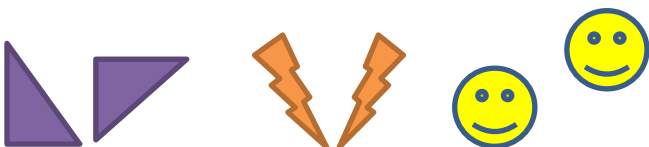
- A. Translation
- B. Rotation
- C. Reflection

B. What changes after a:

- A. Translation
- B. Rotation
- C. Reflection

8.G.2

Describe the sequence between the two congruent figures. Note: The pre-image is on the left and image on the right.



8.G.2

State if the following statements are true or false.

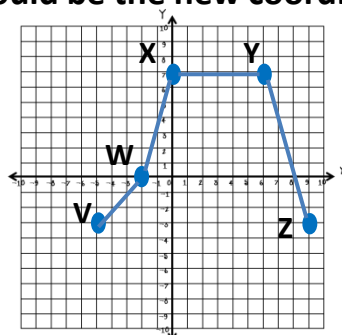
- \_\_\_\_\_ 1. A two dimensional figure is congruent to another if it is obtained through translations, rotations, or reflections.
- \_\_\_\_\_ 2. Translations turn an object.
- \_\_\_\_\_ 3. Reflections flip an object

8.G.3

If the figure shown were reflected over the x-axis, what would be the new coordinate of:

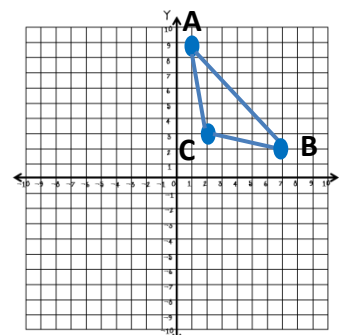
Point W:

Point Z:



8.G.3

Translate the following triangle 4 left and 5 down. Be sure to label the new image on the coordinate plane.



# 8<sup>th</sup> Grade Mathematics

## Geometry

8.G.4

Determine if the following scale factors would be an enlargement or a reduction.

1. \_\_\_\_\_ Scale Factor: 4
2. \_\_\_\_\_ Scale Factor:  $\frac{1}{3}$
3. \_\_\_\_\_ Scale Factor: 0.35
4. \_\_\_\_\_ Scale Factor  $\frac{11}{4}$
5. \_\_\_\_\_ Scale Factor: 3.7

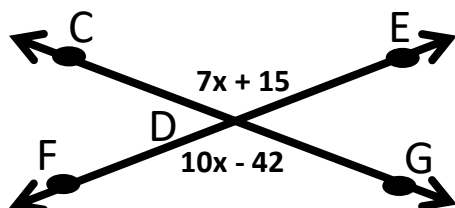
8.G.4

Determine if the following statements are true or false. If the statement is false provide an example of why.

- \_\_\_\_\_ 1. All similar figures are also congruent figures.
- \_\_\_\_\_ 2. All congruent figures are also similar figures.

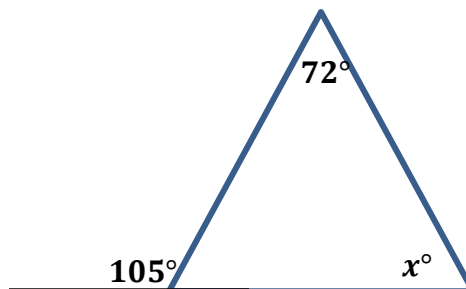
8.G.5

Find the  $m\angle CDE$



8.G.5

Find the value of x. Show all your work



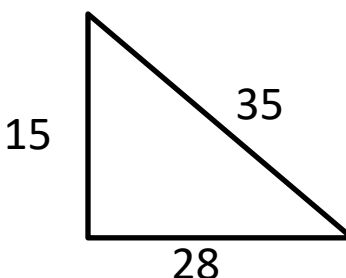
8.G.6

Determine whether the triangle with the given side lengths is a right triangle.

- A) 11, 11, 15
- B) 6, 8, 10

8.G.6

Determine whether the triangle with the given side lengths is a right triangle.



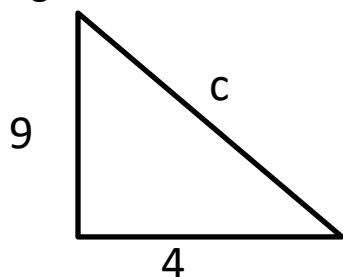
Name: \_\_\_\_\_ Date: \_\_\_\_\_ Hour: \_\_\_\_\_

# 8<sup>th</sup> Grade Mathematics

## Geometry

8.G.7

Find the missing side length in the right triangle

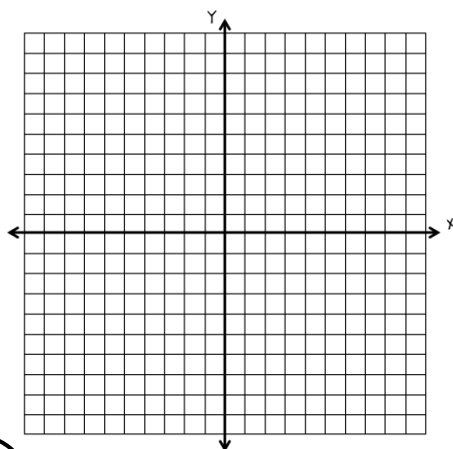


8.G.7

A baseball diamond is a square with sides of 90 feet. What is the distance to the nearest tenth of a foot between home and second base?

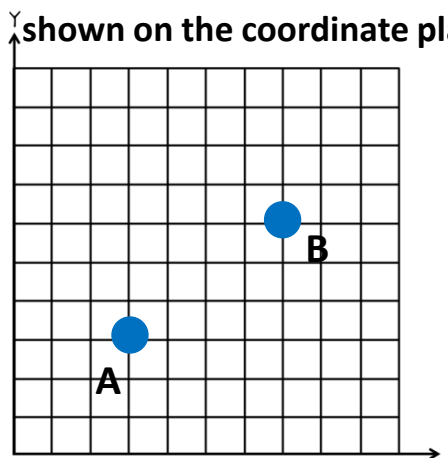
8.G.8

Find the distance between  $(6, -2)$  and  $(1, 7)$ .



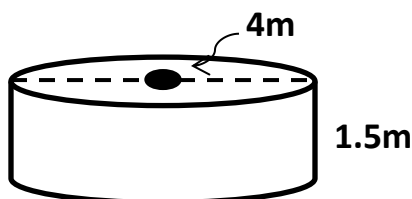
8.G.8

Find the distance between the two points shown on the coordinate plane:



8.G.9

Find the volume of the following:



8.G.9

An ice cream cone has a diameter of 14.8 cm and a volume of  $464.3\text{cm}^3$ . Find the height of the cone to the nearest tenth.

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Hour: \_\_\_\_\_

# 8<sup>th</sup> Grade Mathematics

## Geometry

### REFLECTION

A. What do you feel like you understand the most about geometry?

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B. What is one area you would like to understand better about geometry?

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C. **CIRCLE** the **effort** (10: MAXIMUM EFFORT) you gave and put a **BOX** (10: YOU COULD TEACH THIS TO SOMEONE ELSE) around how you would rate your **UNDERSTANDING** of the content using the number line below.



# 8<sup>th</sup> Grade Mathematics

## Geometry

8.G.1

Explain how you can move from Figure A to each congruent figure by translating, reflecting, or rotating.



**Figure B – Rotation**

**Figure D - Translation**

8.G.1

A. What stays the same after a:

- A. Translation – **size & shape**
- B. Rotation – **size & shape**
- C. Reflection – **size & shape**

B. What changes after a:

- A. Translation – **placement of object**
- B. Rotation – **placement & direction**
- C. Reflection – **placement & direction**

8.G.2

Describe the sequence between the two congruent figures. Note: The pre-image is on the left and image on the right.



**Rotation**



**Reflection**



**Translation**

8.G.2

State if the following statements are true or false.

**T** 1. A two dimensional figure is congruent to another if it is obtained through translations, rotations, or reflections.

**F** 2. Translations turn an object.

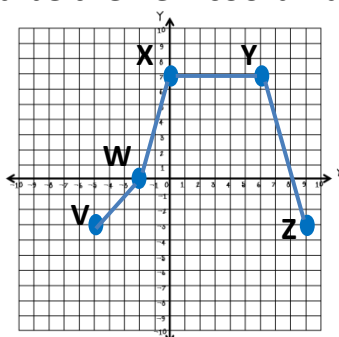
**T** 3. Reflections flip an object

8.G.3

If the figure shown were reflected over the x-axis, what would be the new coordinate of:

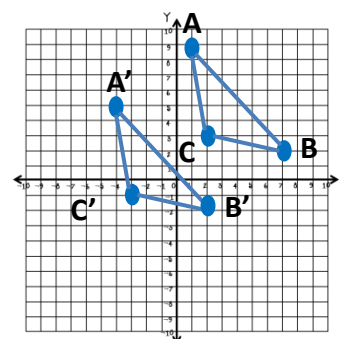
Point W: **(-2, 0)**

Point Z: **(9, 3)**



8.G.3

Translate the following triangle 4 left and 5 down. Be sure to label the new image on the coordinate plane.



# 8<sup>th</sup> Grade Mathematics

## Geometry

8.G.4

Determine if the following scale factors would be an enlargement or a reduction.

1. E Scale Factor: 4
2. R Scale Factor:  $\frac{1}{3}$
3. R Scale Factor: 0.35
4. E Scale Factor  $\frac{11}{4}$
5. E Scale Factor: 3.7

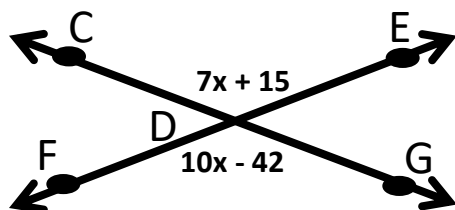
8.G.4

Determine if the following statements are true or false. If the statement is false provide an example of why.

- False 1. All similar figures are also congruent figures.
- True 2. All congruent figures are also similar figures.

8.G.5

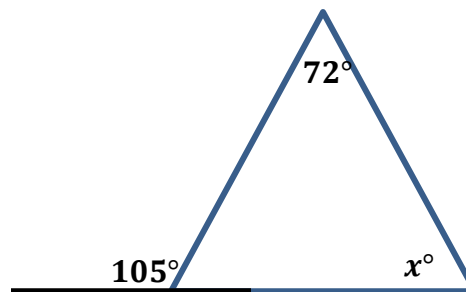
Find the  $m\angle CDE$



**148 degrees**

8.G.5

Find the value of x. Show all your work



**33 degrees**

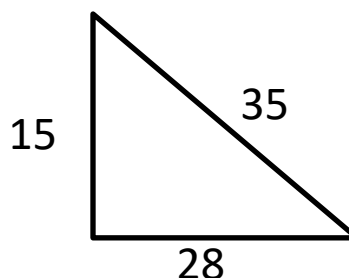
8.G.6

Determine whether the triangle with the given side lengths is a right triangle.

- A) 11, 11, 15 **Not a right triangle**
- B) 6, 8, 10 **Right Triangle**

8.G.6

Determine whether the triangle with the given side lengths is a right triangle.



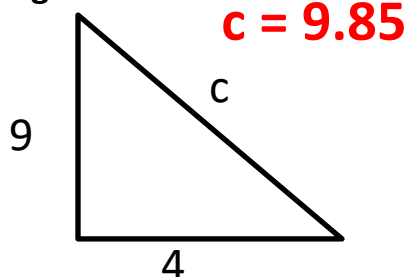
**Not a right triangle**

# 8<sup>th</sup> Grade Mathematics

## Geometry

8.G.7

Find the missing side length in the right triangle



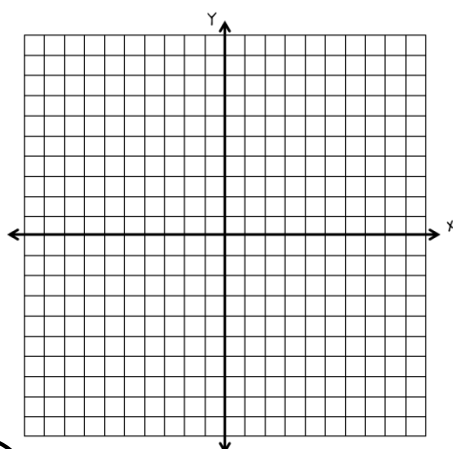
8.G.7

A baseball diamond is a square with sides of 90 feet. What is the distance to the nearest tenth of a foot between home and second base?

**127.28 feet**

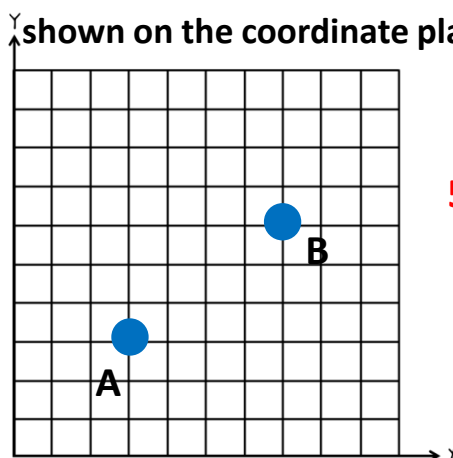
8.G.8

Find the distance between (6, -2) and (1, 7).



8.G.8

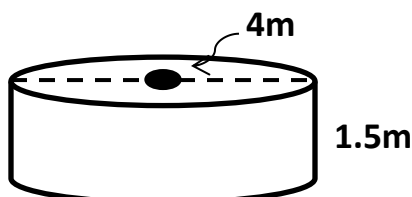
Find the distance between the two points shown on the coordinate plane:



8.G.9

Find the volume of the following:

**$V = 18.84m^3$**



8.G.9

An ice cream cone has a diameter of 14.8 cm and a volume of  $464.3cm^3$ . Find the height of the cone to the nearest tenth.

**8.1 cm**



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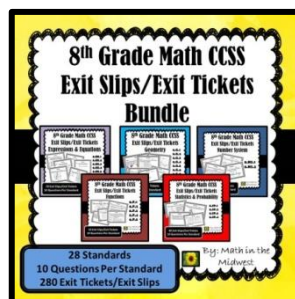
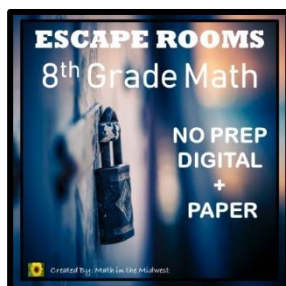
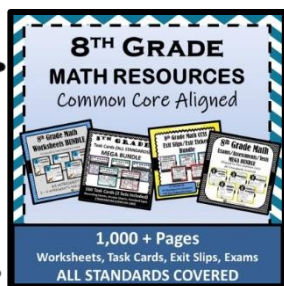
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