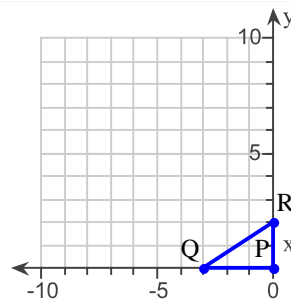


Student: _____
 Date: _____
 Time: _____

Instructor: Victoria Raddatz
 Course: Raddatz Math 8
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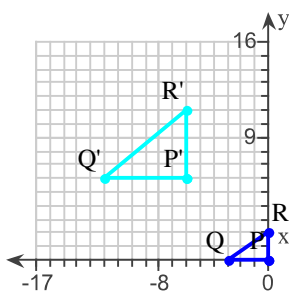
Assignment: Topic 10 STUDY GUIDE

1. Draw the graph of $\triangle PQR$ and $\triangle P'Q'R'$ after a dilation with center $(0,0)$ and scale factor 3.

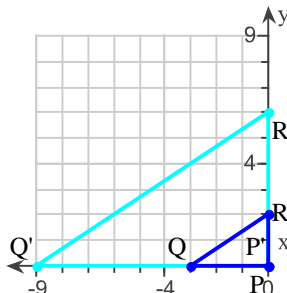


Choose the correct graph below.

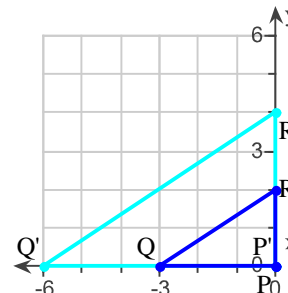
A



D

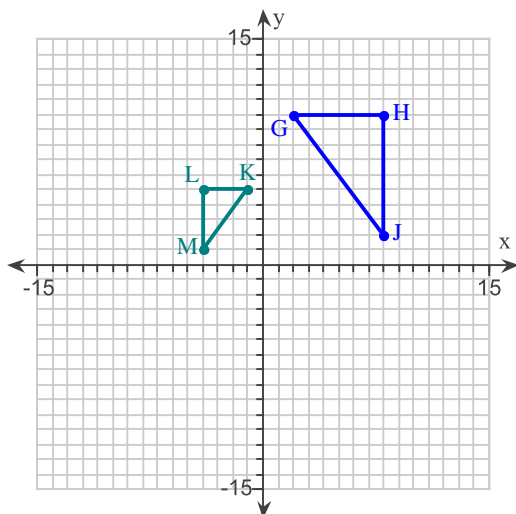


U



ID: 10.1.2

2. Given $\triangle GHJ \sim \triangle KLM$, describe a sequence of a rigid motion followed by a dilation with center $(0,0)$ that maps $\triangle GHJ$ to $\triangle KLM$.



Choose the correct answer below.

- A Reflection across the x-axis, dilation with center $(0,0)$ and scale factor 2
- D Reflection across the x-axis, dilation with center $(0,0)$ and scale factor $\frac{1}{2}$
- U Reflection across the y-axis, dilation with center $(0,0)$ and scale factor 2
- U Reflection across the y-axis, dilation with center $(0,0)$ and scale factor $\frac{1}{2}$

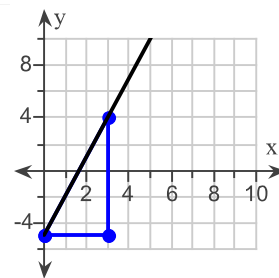
ID: 10.2.1

Student: _____
Date: _____
Time: _____

Instructor: Victoria Raddatz
Course: Raddatz Math 8
Book: *digits: grade 8

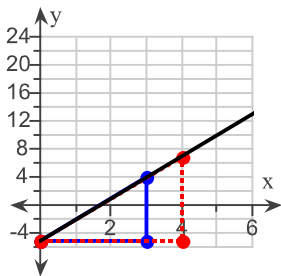
Assignment: Topic 10 STUDY GUIDE

3. Draw the triangle that is the image of the given triangle after dilation with center $(0, -5)$ and a scale factor of 3. Look at the ratio of the rise to the run of each triangle. How do the ratios compare?

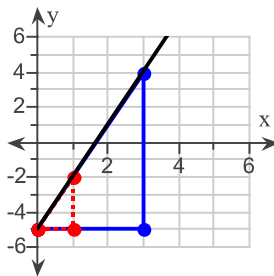


Choose the correct answer below.

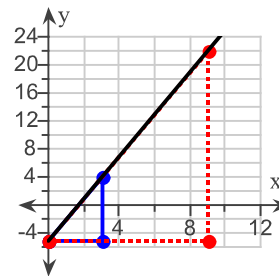
A



B



C



The ratio of the rise to the run of the given triangle is .

The ratio of the rise to the run of the image triangle is .

(Type integers or simplified fractions.)

Choose the correct answer below.

- A The ratio of the rise to the run of the given triangle is 3 times the ratio of the image triangle.
- B The ratios of the rise to the run of the two triangles are the same.
- C The ratio of the rise to the run of the image triangle is 3 times the ratio of the given triangle.

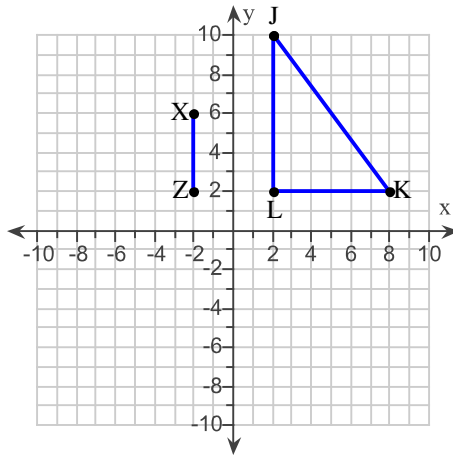
ID: 10.3.1

Student: _____
Date: _____
Time: _____

Instructor: Victoria Raddatz
Course: Raddatz Math 8
Book: *digits: grade 8

Assignment: Topic 10 STUDY GUIDE

4. Given $\triangle JKL \sim \triangle XYZ$, find the possible coordinates for point Y.



Find the possible coordinates for point Y. Select all that apply.

- ^A (1,2)
 ^P (-5, -2)
 ^U (-5,2)
 ^V (-1,2)

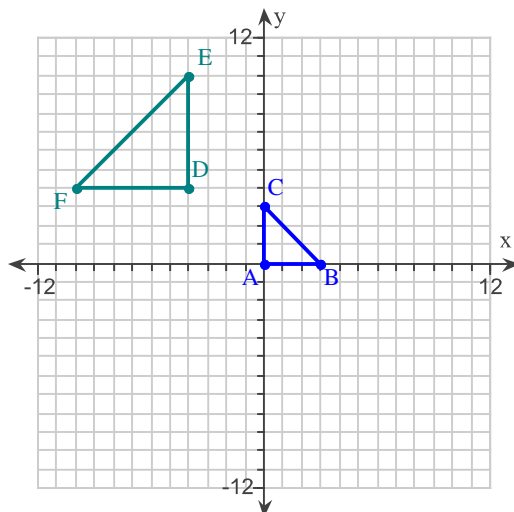
ID: 10.4.1

5. **Mental Math** Rectangle QUAD has coordinates Q(0,0), U(0,5), A(7,5), and D(7,0). Q'U'A'D' is the image of QUAD after a dilation with center (0,0) and scale factor 6. What are the coordinates of point U'?

The coordinates of point U' are . (Type an ordered pair.)

ID: 10.1.11

6. Given $\triangle ABC \sim \triangle DEF$, describe a sequence of rigid motions followed by a dilation with center (0,0) that maps $\triangle ABC$ to $\triangle DEF$.



Choose the correct answer below.

- ^A Rotation of 90° about (0,0), translation 4 units left and 4 units up, dilation with center (0,0) and scale factor 2
 ^P Rotation of 180° about (0,0), translation 2 units left and 2 units up, dilation with center (0,0) and scale factor $\frac{1}{2}$
 ^U Rotation of 180° about (0,0), translation 4 units right and 4 units down, dilation with center (0,0) and scale factor $\frac{1}{2}$
 ^V Rotation of 90° about (0,0), translation 2 units left and 2 units up, dilation with center (0,0) and scale factor 2

ID: 10.2.2

Student: _____
Date: _____
Time: _____

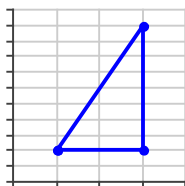
Instructor: Victoria Raddatz
Course: Raddatz Math 8
Book: *digits: grade 8

Assignment: Topic 10 STUDY GUIDE

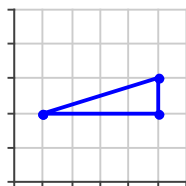
7. Decide which of the following slope triangles you could use to find the slope of the line with the equation

$$y = \frac{1}{4}x + 4.$$

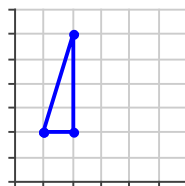
Slope Triangle Q



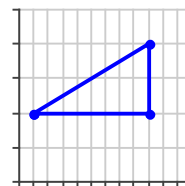
Slope Triangle R



Slope Triangle S



Slope Triangle T

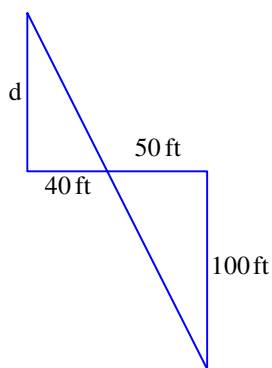


Select all the slope triangles that can be used to find the slope of the line.

- ^A Slope Triangle Q can be used to find the slope of the line.
- ^P Slope Triangle S can be used to find the slope of the line.
- ^U Slope Triangle T can be used to find the slope of the line.
- ^V Slope Triangle R can be used to find the slope of the line.

ID: 10.3.3

8. Find the distance d . Assume that the ratio of d to 100 ft is the same as the ratio of 40 ft to 50 ft.



$d = \square$ ft
(Simplify your answer.)

ID: 10.4.3

Student: _____
Date: _____
Time: _____

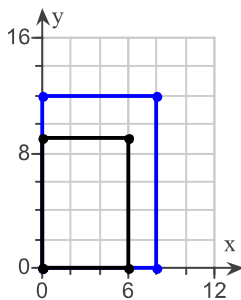
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Course: Raddatz Math 8
Book: *digits: grade 8

Assignment: Topic 10 STUDY GUIDE

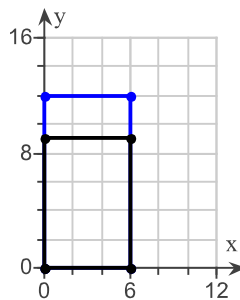
9. **Photography** A photographer uses a computer program to enlarge a photograph. When laid on a grid, the original photograph has coordinates $P(0,0)$, $H(6,0)$, $O(6,9)$, and $T(0,9)$. Graph rectangles $PHOT$ and $P'H'O'T'$, its image after a dilation with center at the origin and scale factor $\frac{4}{3}$.

Choose the correct graph below.

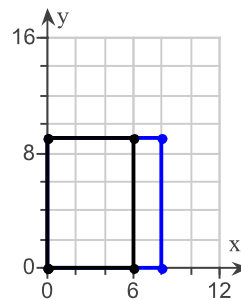
A



B

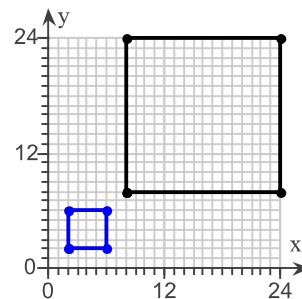


C



ID: 10.1.10

10. The blue figure is a dilation image of the black figure. The origin is the center of dilation. Tell whether the dilation is an enlargement or a reduction. Then find the scale factor of the dilation.



Is the dilation an enlargement or a reduction?

- Reduction
 Enlargement

The scale factor of the dilation is . (Simplify your answer.)

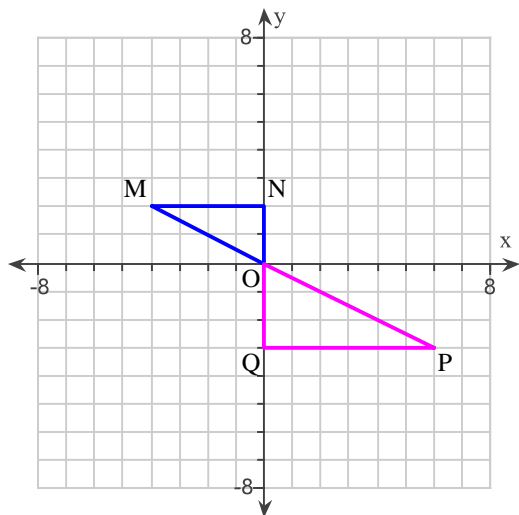
ID: 10.1.4

Student: _____
Date: _____
Time: _____

Instructor: Victoria Raddatz
Course: Raddatz Math 8
Book: *digits: grade 8

Assignment: Topic 10 STUDY GUIDE

11. Is $\triangle MNO$ similar to $\triangle PQO$?



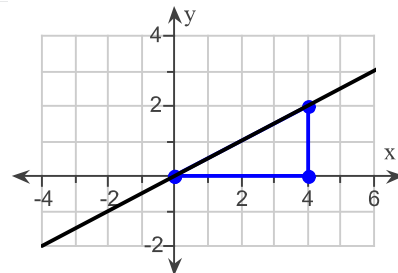
Choose the correct answer below.

- No
 Yes

ID: 10.2.5

12. The slope of the given line is $\frac{1}{2}$. One slope triangle is shown.

Another slope triangle with a ratio of the rise to the run of $\frac{1}{2}$ has vertices at $(0,0)$ and $(14,0)$. Find the coordinates of the third vertex.



The coordinates of the third vertex are .
(Type an ordered pair.)

ID: 10.3.14

13. You are making a scale drawing of your yard. Your yard is 33 ft by 36 ft. In the drawing the 33 ft dimension is 11 in. What should the length of the 36 ft dimension be in the drawing?

The length of the 36 ft dimension should be in. in the drawing.

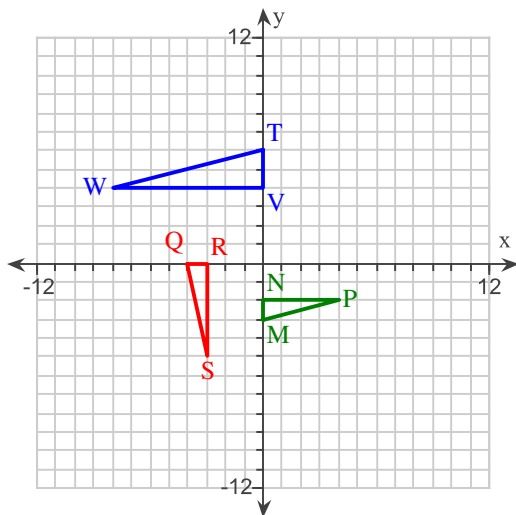
ID: 10.4.7

Student: _____
Date: _____
Time: _____

Instructor: Victoria Raddatz
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Book: *digits: grade 8

Assignment: Topic 10 STUDY GUIDE

14. Which of these triangles are similar?



Choose the correct answer below.

- ^A $\triangle QRS \sim \triangle MNP$
- ^P $\triangle TVW \sim \triangle QRS$
- ^U $\triangle TVW \sim \triangle MNP$

ID: 10.2.6

15. $\triangle RST$ has vertices $R(0,0)$, $S(10,5)$, and $T(5, -5)$. $\triangle R'S'T'$ is the image of $\triangle RST$ after a dilation with center $(0,0)$ and scale factor $\frac{1}{5}$. What are the coordinates of point S' ?

The coordinates of point S' are . (Type an ordered pair.)

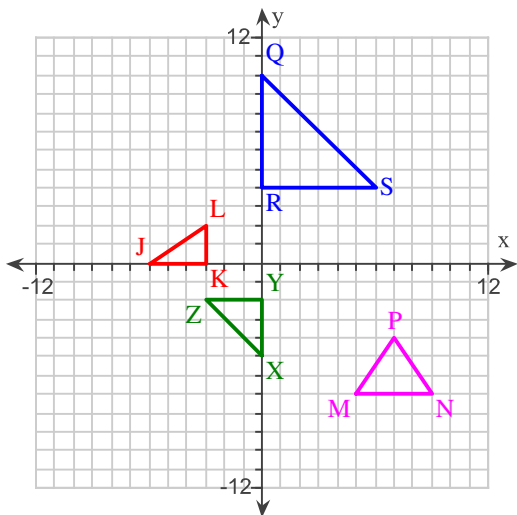
ID: 10.1.5

Student: _____
Date: _____
Time: _____

Instructor: Victoria Raddatz
Course: Raddatz Math 8
Book: *digits: grade 8

Assignment: Topic 10 STUDY GUIDE

16. **Pennants** Rajesh is making pennants in preparation for an upcoming school soccer game. He wants all of the pennants to be similar triangles. Which of these triangles could he use for the pennants?



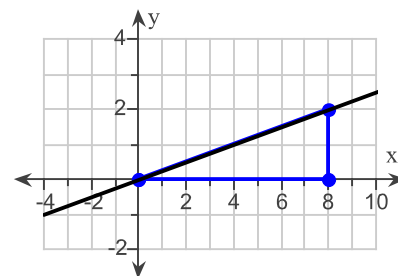
Choose the correct answer below.

- A $\triangle XYZ$ and $\triangle MNP$
- B $\triangle QRS$ and $\triangle XYZ$
- C $\triangle JKL$ and $\triangle XYZ$
- D $\triangle QRS$ and $\triangle JKL$
- E $\triangle JKL$ and $\triangle MNP$
- F $\triangle QRS$ and $\triangle MNP$

ID: 10.2.10

17. The slope of the given line is $\frac{1}{4}$. One slope triangle is shown.

Another slope triangle with a ratio of the rise to the run of $\frac{1}{4}$ has vertices at (0,0) and (4,0). Find the coordinates of the third vertex.



The coordinates of the third vertex are .
(Type an ordered pair.)

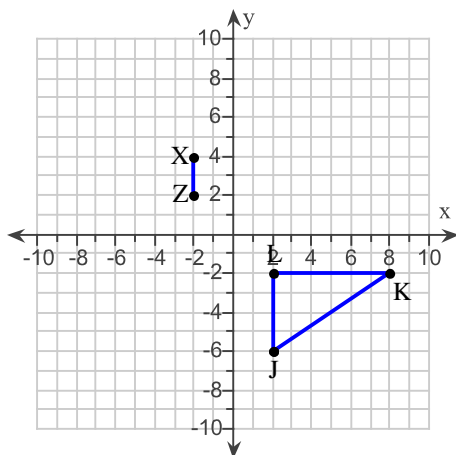
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Student: _____
Date: _____
Time: _____

Instructor: Victoria Raddatz
Course: Raddatz Math 8
Book: *digits: grade 8

Assignment: Topic 10 STUDY GUIDE

18. Given $\triangle JKL \sim \triangle XYZ$, a student was asked to find the possible coordinates for point Y. She incorrectly said the only possible set of coordinates for point Y is (1,2). Find the possible coordinates for point Y. What mistake might the student have made?



Find the possible coordinates for point Y. Select all that apply.

- ^ (-5,2)
^ (1,2)
^ (-5,-2)
^ (-1,2)

What mistake might the student have made?

- ^ She switched the x- and y-coordinates in the point she found.
^ She used the wrong sign for the x-coordinate.
^ She did not find all possible coordinates for Y using another sequence of rigid motions.
^ She used the wrong sign for the y-coordinate.

ID: 10.4.5

Student: _____
Date: _____
Time: _____

Instructor: Victoria Raddatz
Course: Raddatz Math 8
Book: *digits: grade 8

Assignment: Topic 10 STUDY GUIDE

1. B

2. D

3. C
3
3
B

4. A, C

5. (0,30)

6. D

7. C, D

8. 80

9. A

10. Reduction
 $\frac{1}{4}$

11. Yes

12. (14,7)

13. 12

14. C

15. (2,1)

Student: _____

Instructor: Victoria Raddatz

Assignment: Topic 10 STUDY GUIDE

Date: _____

Course: Raddatz Math 8

Time: _____

Book: *digits: grade 8

16. B

17. (4,1)

18. A, B
C