NAME _____ DATE _____ PERIOD _____

Test, Form 1A

SCORE _____

Write the letter for the correct answer in the blank at the right of each question.

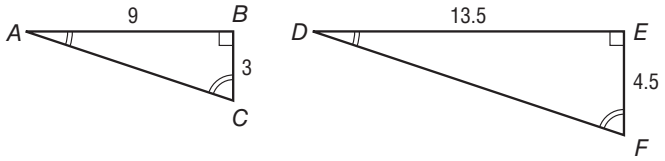
1. A 25,000 gallon swimming pool is being filled. Two hundred and fifty gallons are in it after 30 minutes. How many hours will it take to fill the pool? Use the *draw a diagram* strategy.

A. 200 h **C.** 50 h

B. 100 h **D.** 25 h

1. C

2. The triangles are similar. Which series of transformations maps $\triangle ABC$ onto $\triangle DEF$?



F. translation followed by a rotation

G. translation followed by a dilation

H. rotation followed by a dilation

I. reflection followed by a dilation

2. G

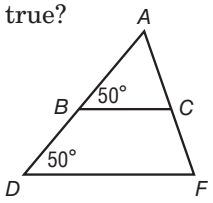
3. The length and width of a rectangle are 5 feet and 2 feet, respectively. A similar rectangle has a width of 8 feet. What is the length of the second rectangle?

A. 8 ft **C.** 16 ft

B. 14 ft **D.** 20 ft

3. D

4. Which statement about the triangles at the right is true?



F. $\triangle ABC$ is not similar to $\triangle ADF$

G. $\triangle ABC$ is similar to $\triangle ADF$

H. $\angle BAC$ is not congruent to $\angle DAF$

I. $\triangle ABC$ is congruent to $\triangle ADF$

4. G

5. Rectangle *DEFG* is similar to rectangle *JKLM*. Rectangle *DEFG* has a length of 5 units and a perimeter of 16 units. Rectangle *JKLM* has a length of 10 units. What is the perimeter of rectangle *JKLM*?

A. 8 units **C.** 32 units

B. 20 units **D.** 64 units

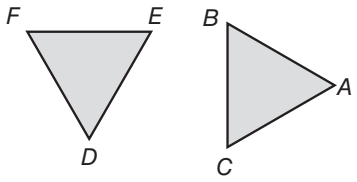
5. C

NAME _____ DATE _____ PERIOD _____

Test, Form 1A *(continued)*

SCORE _____

6. Triangle *ABC* is congruent to triangle *DEF*. Which series of transformations maps $\triangle DEF$ onto $\triangle ABC$?



F. rotation followed by a translation
G. translation followed by a dilation
H. rotation followed by a dilation
I. dilation followed by a reflection

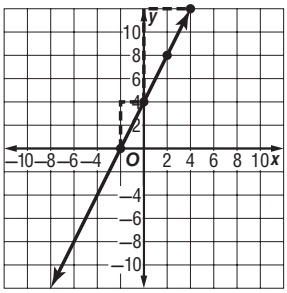
6. F

7. Which of the following statements is *not* true if $\triangle JKL \cong \triangle MNO$?

A. $\angle J \cong \angle M$
B. $\angle L \cong \angle O$
C. $\angle N \cong \angle K$
D. $\angle L \cong \angle N$

7. D

8. Which of the following statements is *not* true about the graph shown?



F. The simplified ratio of the rise to the run of each triangle is 2.
G. The slope of the line is 2.
H. The slope of the line is −2.
I. The smaller triangle and the larger triangle shown are similar.

8. H

9. Which statement is *not* true concerning any non-vertical line on the coordinate plane?

A. All of the slope triangles on the line are similar.
B. The slope is the same between any two distinct points on the line.
C. In the slope triangles, the ratios of the rise to the run are equal to the slope.
D. The slope varies between any two distinct points on the line.

9. D

NAME _____ DATE _____ PERIOD _____

Test, Form 2A

SCORE _____

Write the letter for the correct answer in the blank at the right of each question.

1. A survey of 12 students showed that 7 liked football, 10 liked basketball, and 5 liked both. How many students just liked basketball? Use the *draw a diagram* strategy.

A. 12 **C.** 5

B. 10 **D.** 2

1. C

2. Debbie is painting an image on a piece of art canvas. The image she is reproducing is 3 inches by 5 inches. She enlarges the dimensions 4 times. Which of the following statements is *not* true?

F. The perimeter of the original image and the perimeter of the new image are related by a scale factor of 4.

G. The area of the new image is 4 times the area of the original image.

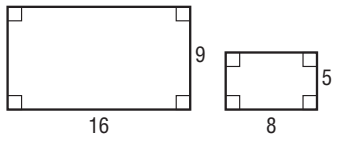
H. The area of the original image and the area of the new image are related by a scale factor of 16.

I. The perimeter of the original image is $\frac{1}{4}$ the perimeter of the new image.

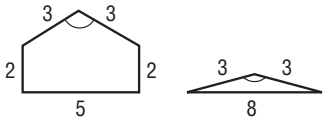
2. G

3. Which pair of polygons is similar?

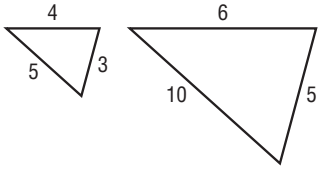
A.



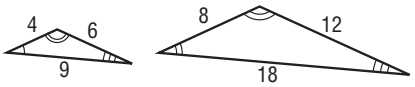
C.



B.



D.



3. D

4. Mitzi is 64 inches tall and casts a 48 inch shadow. Her daughter, who is standing next to her, casts a 30 inch shadow. How tall is her daughter?

F. 47.5 in. **H.** 35 in.

G. 40 in. **I.** 22.5 in.

4. G

5. Which of the following statements is *not* true if quadrilateral *ABCD* is congruent to quadrilateral *RSTU*?

A. $\overline{AB} \cong \overline{RS}$ **C.** $\angle T \cong \angle C$

B. $\overline{CD} \cong \overline{TU}$ **D.** $\angle A \cong \angle U$

5. D

NAME _____ DATE _____ PERIOD _____

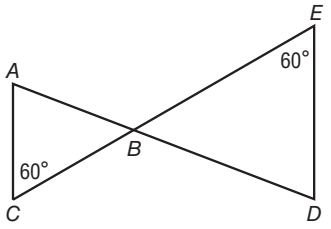
Test, Form 2A *(continued)*

SCORE _____

6. The length of a rectangle is 18 centimeters and the width is 6 centimeters. A similar rectangle has a width of 2 centimeters. What is the length of the second rectangle?

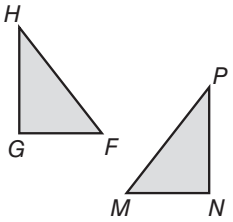
6. 6 cm

7. Determine whether the triangles are similar. If so, write a similarity statement.



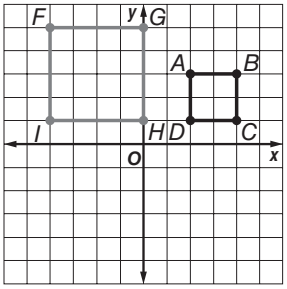
7. similar; $\triangle ABC \sim \triangle DBE$

8. Determine if the two figures are congruent by using transformations. Explain your reasoning.



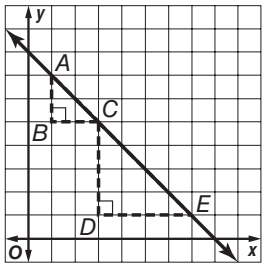
8. congruent; figure reflected then translated

9. Determine if the two figures are similar by using transformations. Explain your reasoning.



9. similar; figure dilated then translated

10. Write a proportion comparing the rise to the run for each of the similar slope triangles shown at the right. Then find the numeric value.



10. $\frac{AB}{BC} = \frac{CD}{DE}$

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

NAME _____ DATE _____ PERIOD _____

Test, Form 2B

SCORE _____

Write the letter for the correct answer in the blank at the right of each question.

1. A survey of 11 students showed that 8 liked science, 7 liked mathematics, and 4 liked both. How many students just liked science? Use the *draw a diagram* strategy.

A. 8 **C.** 5

B. 7 **D.** 4

1. D

2. Selena is painting an image on a piece of art canvas. The image she is reproducing is 4 inches by 6 inches. She enlarges the dimensions 3 times. Which of the following statements is *not* true?

F. The perimeter of the original image and the perimeter of the new image are related by a scale factor of 3.

G. The perimeter of the original image is $\frac{1}{3}$ the perimeter of the new image.

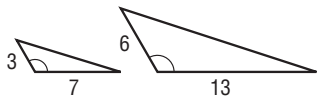
H. The area of the new image is 3 times the area of the original image.

I. The area of the original image and the area of the new image are related by a scale factor of 9.

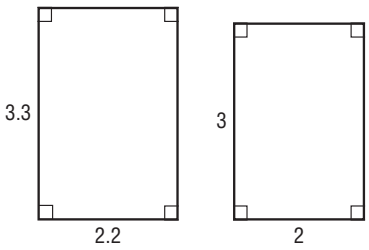
2. H

3. Which pair of polygons is similar?

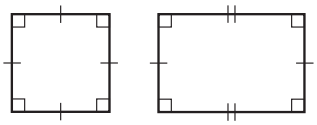
A.



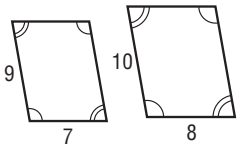
C.



B.



D.



3. C

4. Dominic is 72 inches tall and casts a 60 inch shadow. His son, who is standing next to him, casts a 50 inch shadow. How tall is his son?

F. 41.7 in. **H.** 68 in.

G. 60 in. **I.** 86.4 in.

4. G

5. Which of the following statements is *not* true if $\triangle JKL$ is congruent to $\triangle RST$?

A. $\angle J \cong \angle R$ **C.** $\overline{JK} \cong \overline{RS}$

B. $\angle K \cong \angle T$ **D.** $\overline{KL} \cong \overline{ST}$

5. B

NAME _____ DATE _____ PERIOD _____

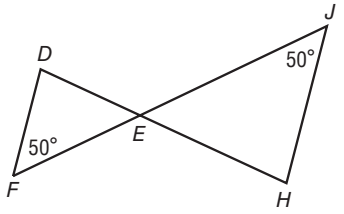
SCORE _____

Test, Form 2B *(continued)*

6. The length of a rectangle is 14 centimeters and the width is 5 centimeters. A similar rectangle has a width of 2.5 centimeters. What is the length of the second rectangle?

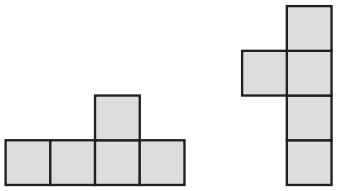
6. 7 cm

7. Determine whether the triangles are similar. If so, write a similarity statement.



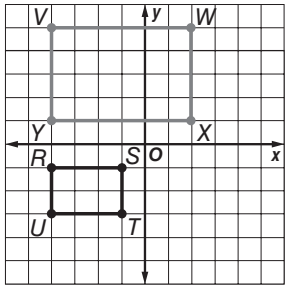
7. similar; $\triangle DEF \sim \triangle HEJ$

8. Determine if the two figures are congruent by using transformations. Explain your reasoning.



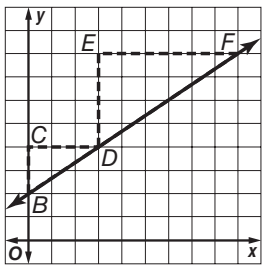
8. congruent; figure rotated then translated

9. Determine if the two figures are similar by using transformations. Explain your reasoning.



9. similar; figure dilated then translated

10. Write a proportion comparing the rise to the run for each of the similar slope triangles shown at the right. Then find the numeric value.



10. $\frac{BC}{CD} = \frac{DE}{EF}$

$\frac{2}{3} = \frac{4}{6}$

NAME _____ DATE _____ PERIOD _____

Test, Form 1B

SCORE _____

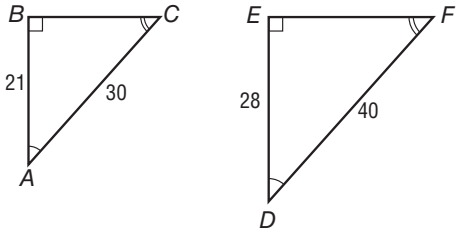
Write the letter for the correct answer in the blank at the right of each question.

1. A 72,000 gallon water tower is being drained. Two thousand gallons are drained in the first hour. How many hours will it take to drain the water tower? Use the *draw a diagram* strategy.

A. 72 h **B.** 36 h **C.** 18 h **D.** 9 h

1. **B**

2. The triangles are similar. Which series of transformations maps $\triangle ABC$ onto $\triangle DEF$?



F. translation followed by a rotation

G. translation followed by a dilation

H. rotation followed by a dilation

I. reflection followed by a dilation

2. **G**

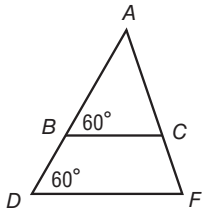
3. The length and width of a rectangle are 4 feet and 3 feet, respectively. A similar rectangle has a width of 9 feet. What is the length of the second rectangle?

A. 9 ft **C.** 14 ft

B. 12 ft **D.** 16 ft

3. **B**

4. Which statement about the triangles at the right is true?



F. $\triangle ABC$ is similar to $\triangle ADF$

G. $\triangle ABC$ is not similar to $\triangle ADF$

H. $\angle BAC$ is not congruent to $\angle DAF$

I. $\triangle ABC$ is congruent to $\triangle ADF$

4. **F**

5. Rectangle *RSTU* is similar to rectangle *WXYZ*. Rectangle *RSTU* has a length of 6 units and a perimeter of 18 units. Rectangle *WXYZ* has a length of 12 units. What is the perimeter of rectangle *WXYZ*?

A. 18 units **C.** 36 units

B. 24 units **D.** 72 units

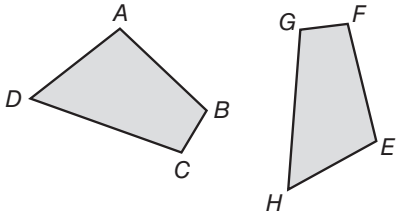
5. **C**

NAME _____ DATE _____ PERIOD _____

Test, Form 1B *(continued)*

SCORE _____

6. The figures below are congruent. Which series of transformations maps figure *ABCD* onto *EFGH*?



F. rotation followed by a translation
G. rotation followed by a dilation
H. reflection followed by a translation
I. reflection followed by a rotation

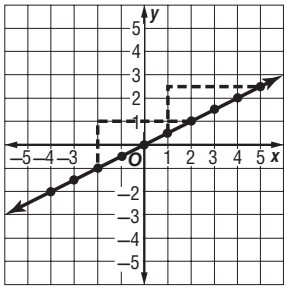
6. I

7. Which of the following statements is true if $\triangle JKL \cong \triangle MNO$?

A. $\angle J \cong \angle N$
B. $\angle L \cong \angle M$
C. $\angle N \cong \angle K$
D. $\angle L \cong \angle N$

7. C

8. Which of the following statements is *not* true about the graph shown?



F. The simplified ratio of the rise to the run of each triangle is $\frac{1}{2}$.
G. The slope of the line is $\frac{1}{2}$.
H. The slope of the line is $-\frac{1}{2}$.
I. The two triangles shown are similar.

8. H

9. Which statement is true concerning any non-vertical line on the coordinate plane?

A. All of the slope triangles on the line are congruent.
B. The slope is the same between any two distinct points on the line.
C. In the slope triangles, the ratios of the rise to the run are equal to the absolute value of the *y*-coordinate.
D. The slope varies between any two distinct points on the line.

9. B