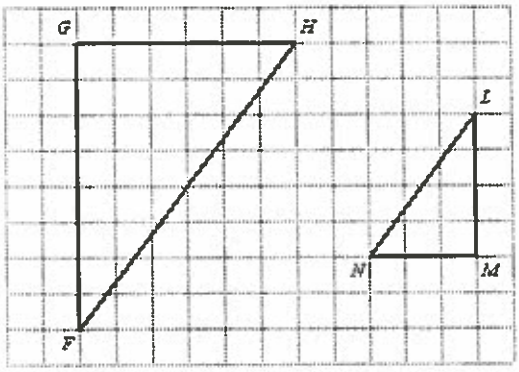
Name: Key Class: Date:

Chapter 7 Test Practice

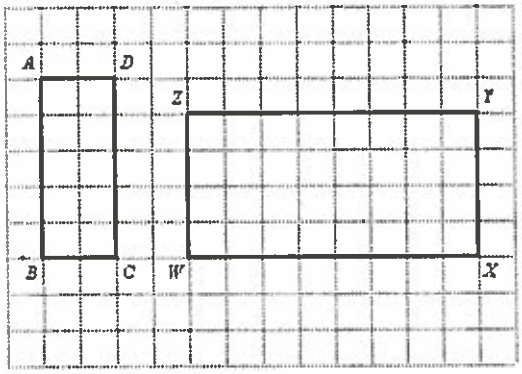
Indicate the answer choice that best completes the statement or answers the question.

B 1. Determine if the two figures are similar by using transformations.



a. The figures are similar because a reflection followed by a dilation will map figure *FGH* onto figure *LMN*.
b. The figures are similar because a rotation followed by a dilation will map figure *FGH* onto figure *LMN*.
c. The figures are similar because a translation followed by a dilation will map figure *FGH* onto figure *LMN*.
d. The figures are not similar. The ratios of the side lengths are not equal.

D 2. Determine if the two figures are similar by using transformations.



a. The figures are similar because a reflection followed by a dilation will map figure *ABCD* onto figure *WXYZ*.
b. The figures are similar because a rotation followed by a dilation will map figure *ABCD* onto figure *WXYZ*.
c. The figures are similar because a translation followed by a dilation will map figure *ABCD* onto figure *WXYZ*.
d. The figures are not similar. The ratios of the side lengths are not equal.

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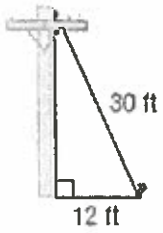
Enter the appropriate value to answer the question or solve the problem.

3. A statue casts a shadow 25 feet long. A boy standing next to the statue is 4.5 feet tall and casts a shadow that is 3.6 feet long. How tall is the statue in feet?

31.25 ft

4. **SHORT RESPONSE** A telephone pole is supported by a guy wire. How tall is the telephone pole in feet? Round to the nearest tenth if necessary.



27.5 ft

5. 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 in centimeters?

7cm

6. The length of a rectangle is 22 centimeters and the width is 4 centimeters. A similar rectangle has a width of 6 centimeters. What is the perimeter of the second rectangle in centimeters?

78cm

7. A road sign casts a shadow that is 4 feet long. At the same time, a 6-foot man standing next to the sign casts a shadow that is 2.4 feet long. How tall is the sign in feet?

10ft

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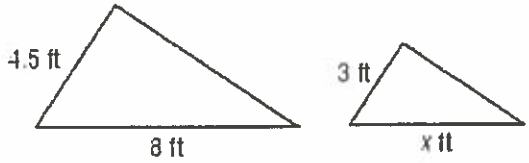
8. The length of a rectangle is 45 inches and the width is 8 inches. A similar rectangle has a width of 24 inches. What is the perimeter of the second rectangle in inches?

318 in

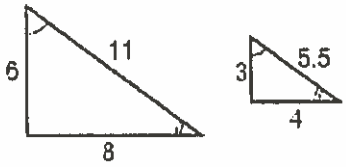
9. The triangles in the figure below are similar.



What is the value of x in feet to the nearest tenth?

5.3 ft

10. Determine whether the pair of polygons is similar using properties of similar polygons. Explain your reasoning.



SIMILAR - CORRESPONDING ANGLES ARE CONGRUENT AND CORRESPONDING SIDES ARE PROPORTIONAL

11. Lauren has a picture that is 4in wide by 6 in long. She wants to enlarge it so the length of the new picture is 15in long. What is the area of the new picture?

150 in^2

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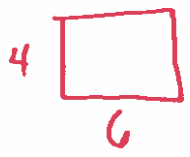
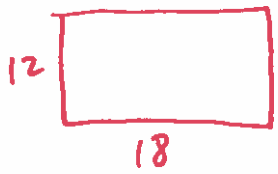
12. Two rectangles are similar. The length and width of the first rectangle is 9 meters by 7 meters. The second rectangle is similar by a scale factor of 3. What is the area of the second rectangle?

$A = 567 m^2$

Indicate the answer choice that best completes the statement or answers the question.

C 13. 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
b. 100 h
c. 50 h
d. 25 h

A,B,D 14. 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 are true?

a. The perimeter of the original image and the perimeter of the new image are related by a scale factor of 3.
b. The perimeter of the original image is $\frac{1}{3}$ the perimeter of the new image.
c. The area of the new image is 3 times the area of the original image.
d. The area of the original image and the area of the new image are related by a scale factor of 9.