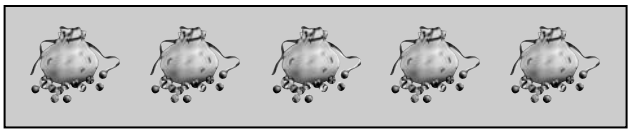
Name: _____

Date: _____ Grade: _____

SECTION QUIZ 1-2



Remember:
Score an 85% or higher on all three quizzes and you may be exempt from the chapter test!



Congratulations! You have completed this section!
Answer the following questions to test your understanding of the material. When you are finished, hand in your quiz to your teacher. Each answer is worth 2.5 points.

---

1. All triangles are similar in that they have _____ sides and three angles.

2. Two triangles are similar, mathematically speaking, if the corresponding angles of the triangles are _____ (90°, congruent, obtuse).

3. Two triangles are _____ (equal, similar, congruent) if, and only if, each of the corresponding angles are congruent and the ratios of corresponding sides are equal.

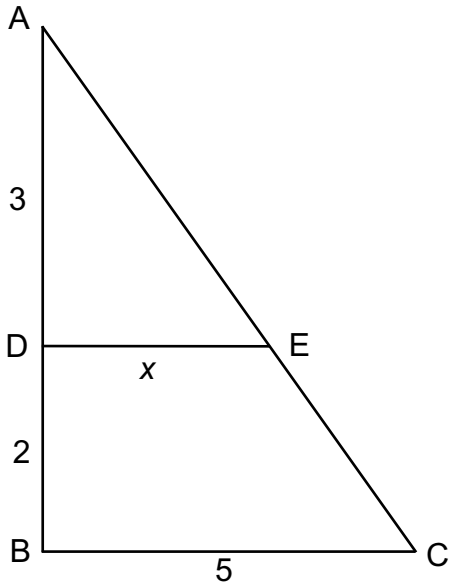
4. If $\triangle ABC$_____ $\triangle DEF$, then $\frac{AB}{DE} = \frac{AC}{DF} = \frac{BC}{EF}$.

5. The symbol, ~ means _____.

6. Having the same shape but not necessarily the same size is to be _____.

7. A mathematical property used to show that two triangles are similar is known as the _____-_____-_____ (A-A-A) property.

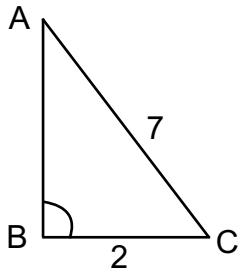
Refer to the diagram below to answer question 8.

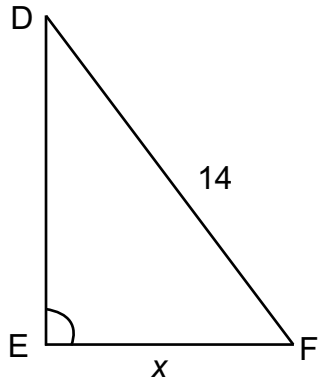


8. Calculate the length of the line segment DE. _____

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Refer to the diagrams below to answer questions 9-11.

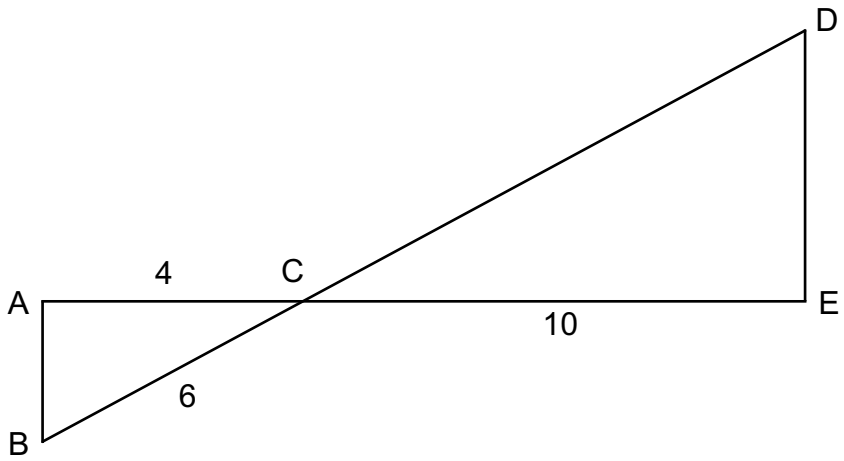




9. $\angle B \cong$ _____

(a) $\angle A$ (b) $\angle E$ (c) $\angle F$ (d) $\angle D$

10. Calculate the length of line segment EF. _____



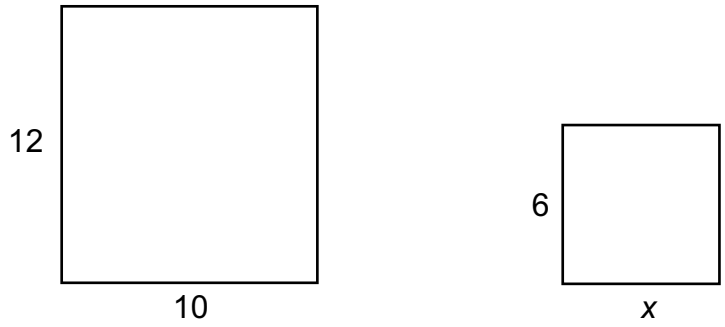
11. In the diagram above calculate the length of line segment CD. _____

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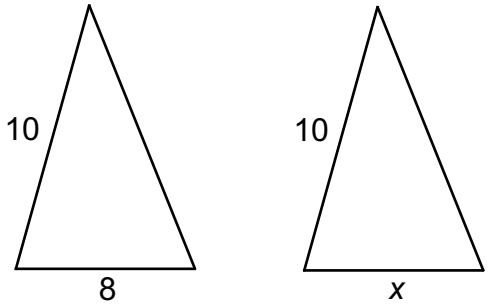
Calculate the value of the indicated sides of similar objects. Show your work in the space provided and write your answers on the blanks. Draw a picture if necessary.

12. A local school installed a new flagpole. The principal asked Professor K to determine how much lanyard (rope) would be needed to go through the pulleys at the top and bottom of the flagpole. The principal did not know the height of the flagpole. Draw a picture to help visualize the height of the flagpole and Professor K's height. Professor K is 6 feet tall and he casts a shadow of three feet. At the same time the flagpole casts a shadow of 12 feet. Calculate the length of rope needed so the flag can be raised and lowered. (Hint: Once you have determined the height of the pole, multiply by two since the rope is doubled on flagpoles.) _____

13. Calculate the indicated length. x = _____

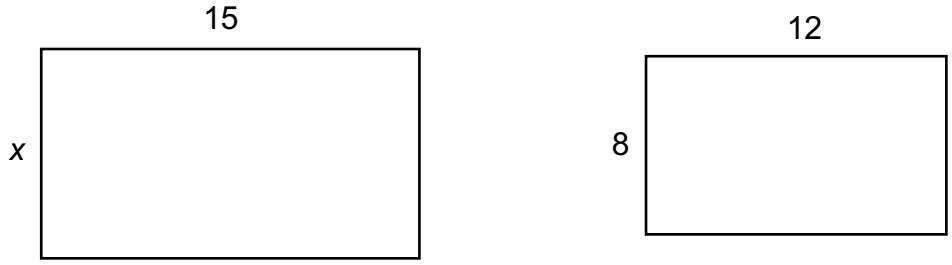


14. Calculate the length of the missing dimension. x = _____



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15. Calculate the value of x. $x =$ _____



16. Differences in area can be calculated by using the concept of _____.

17. The formula for the area of a rectangle is _____ = _____.

Use the concept of similarity to determine or predict the indicated value. Show your work in the space provided.

18. The area of a rectangle is 25 square meters. If the length of one side is doubled, determine the area of the new rectangle. $A =$ _____

19. The area of a triangle is twice that of another triangle. Calculate the altitude of the second triangle if the base of the first triangle is 20 inches and the area of the first triangle is 50 square inches. The bases of the two triangles are of equal length. (Remember the formula for the area of a triangle is $A = \frac{1}{2}bh$.) $A =$ _____

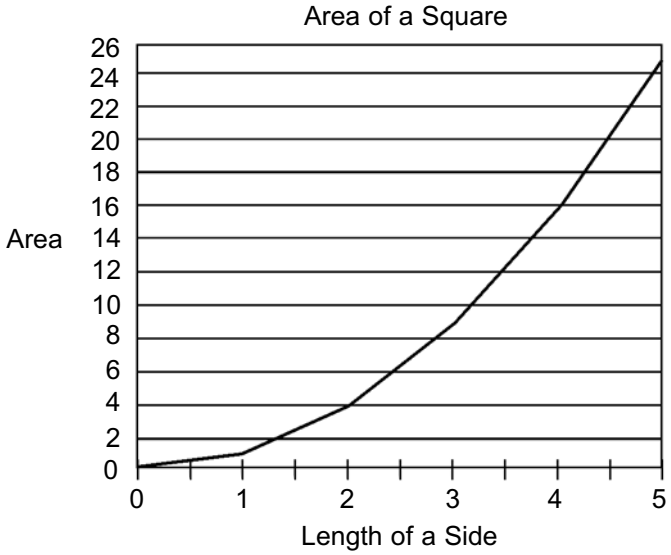
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20. The area of a rectangle is one-fourth that of another. Two sides of the first rectangle are equal to two sides of the second. Determine the length of the other two sides of the first rectangle if the remaining sides of the second rectangle are 16 inches in length. _____

21. Changing just one side of a rectangle affects the area by the exact same _____.
(a) factor (b) increment (c) dimension

22. When both sides of a rectangle are changed the area changes more _____ (slowly, rapidly) than if only one side were changed.

Look at the graph, "Area of a Square," below to answer questions 23-25.



23. The area of a square of side one inch is _____.

24. The area of a square of side two inches is _____.

25. Choose the best estimate for the area of a square of side four inches. _____
(a) 16 (b) 9 (c) 14 (d) 12

Work the following problems. Show your work in the space provided. Write your answers on the blanks. Remember to draw a picture when necessary for you to visualize the problem (26-27).

26. A square with dimensions of 3 cm has an area of 9 sq cm. Using ratios, calculate the area of a square with dimensions 6 of cm. _____

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27. A square with an area of 12.25 sq meters is compared to a square with an area of 49 sq meters. Calculate the length of the side of the second square, if the length of the side of the first is 3.5 meters. Choose the best answer. _____

(a) 7 (b) 5 (c) 4.5 (d) 6

Fill in the blank.

28. Differences in volume can be calculated by using the concept of _____ (similarity, congruency, equality).

29. Volume is shown in _____ units.

30. If an object is a cube, you simply _____ one edge, or raise it to a power of three.

Work the following problems using ratios of volumes and dimensions in the spaces provided. Write your answers on the blanks. Remember to draw a picture when necessary to help visualize the problem.

31. Determine the factor of enlargement if the dimensions of a cube are 4 times greater than the dimensions of another cube. _____

(a) $^1/_4$ (b) 4 (c) $^1/_{16}$ (d) 64

32. The volume of cube A is one cubic unit. Calculate the dimensions of cube B, if the area of cube B is eight cubic units. _____

(a) 1 unit (b) 2 units (c) 3 units (d) 4 units (e) 5 units (f) 6 units

33. A cube with an edge length of five inches contains a volume of 125 cubic inches. The dimensions of another cube are one-fifth that of the first cube. Calculate the volume of the second cube. _____ cubic inches

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34. The volume of a cube is 216 cubic cm. The length of an edge of this cube is twice the length of the edge of another. Calculate the volume of the second cube. _____ cm^3

35. The formula for the volume of a cube is $V =$ _____.

Match the following Life Principles.

36. _____ *"Small problems become large*

37. _____ *"Where there is matter*

38. _____ *"The height of a man's wisdom*

39. _____ *"Reducing a large problem into smaller problems*

40. _____ *"Man is like a fraction whose numerator is what he is and whose denominator is what he thinks of himself.*

(a) *The larger the denominator, the smaller the fraction."*

(b) *when not dealt with quickly."*

(c) *determined by his character."*

(d) *there is geometry."*

(e) *enlarges the probability of success."*

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