

## 7th Grade – Semester Exam Review

*The Spring Semester Exam will be comprehensive. The study guide will allow you to work on questions similar to those that will be on the test. You will be expected to know and solve the following problems and scenarios on your final exam. Failure to complete the review will negatively impact your readiness for the final.*

**Write the ratio as a fraction in simplest form. Pg. 400**

1. 9 to 81
2. 20:35
3. A dogwood tree has a height of 10 feet and a width of 4 feet. Write the ratio of the height to the width.
4. A brick has a height of 2 inches and a length of 8 inches. Write the ratio of the height to the length.

**Better Buy – Determine which is the better buy. Pg. 405**

5. 6 oz can of tuna for \$1.25; 9 oz can of tuna for \$1.99
6. A football player signs a contract that pays him \$28 million over 7 years. What is his average annual salary?

**Solve the proportion. Pg. 419**

7. — —

8. — —

9. — —

10. You are saving money to buy a new bicycle. You save \$100 every 4 months. How long will it take you to save \$250?
11. There are 35 writing utensils in a drawer. The ratio of pens to pencils is 2:5. How many pens are in the drawer?

**Write the percent as a fraction and a decimal.**

12. 19%
13. 65%
14. 210%

**Write the fraction as a decimal and a percent.**

15. —

16. —

**Write the decimal as a fraction and a percent.**

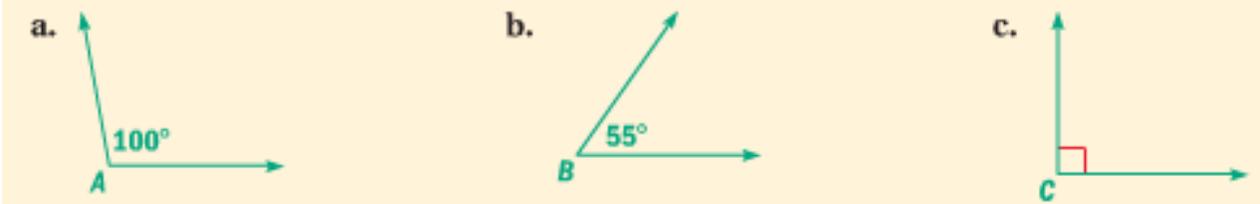
- 17. 1.39
- 18. .0041
- 19. .28
- 20. Nine out of twelve members of a jury are over 35 years old. What percent of the jury **IS NOT** over 35 years old?

Use a proportion to answer the question. Pg. 465 and  $I=Prt$

- 21. What number is 16% of 75?
- 22. 72 is 40% of what number?
- 23. What percent of 400 is 252?
- 24. On a recent test, John answered 80% of the questions correctly. There were 30 questions on the test. How many questions did John answer correctly?
- 25. You and your family are eating at a restaurant. The food bill is \$40. Your family leaves a 20% tip. The sales tax is 6%. What is the total cost of the meal?
- 26. Maggie has \$180 in a savings account that earns 5% simple annual interest. How much interest will she earn in 2 years?

27. Pg.511

Classify the angle as *acute*, *right*, *obtuse*, or *straight*.



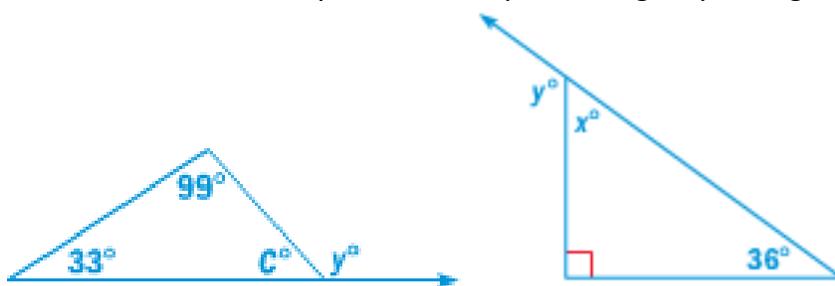
28. Tell whether angle C and angle D are **complementary**, **supplementary**, or **neither**. Pg.512

$$m\angle C = 42^\circ, m\angle D = 48^\circ$$

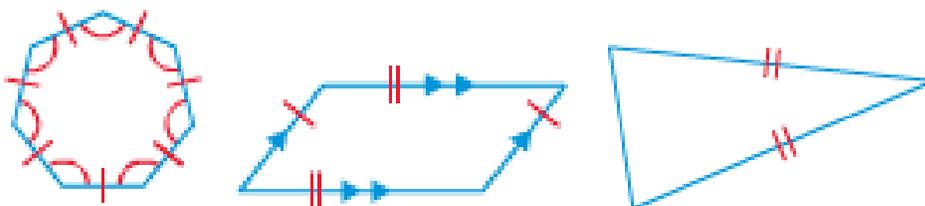
$$m\angle C = 76^\circ, m\angle D = 114^\circ$$

$$m\angle C = 37^\circ, m\angle D = 43^\circ$$

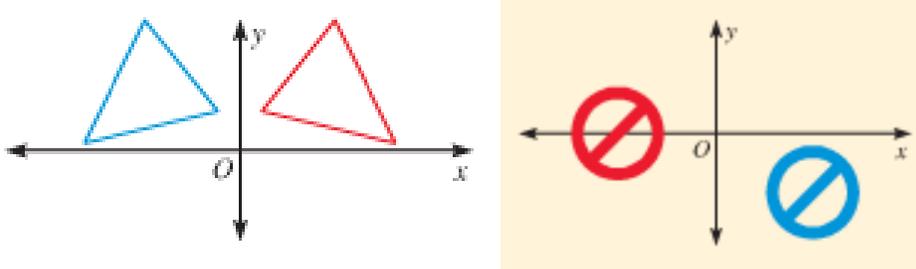
29. Find the values of x and y. Then classify the triangle by its angle measures.



30. Classify the polygon and tell if it is regular. If it is not regular, explain why not. Pg. 530



31. Rectangles  $QRST$  and  $CDFG$  are similar.  $QRST$  is 8 inches long and 6 inches wide.  $CDFG$  is 20 inches long and 15 inches wide. Find the ratio of the lengths of the corresponding sides of  $QRST$  to  $CDFG$ .
32. A monument casts a 60-foot shadow. How tall is the monument?
33. Tell whether the image (on right) is a **translation** or a **rotation** of the original image (on left).



Find the two square roots of the number.

34. 49  
 35. 25  
 36. 169

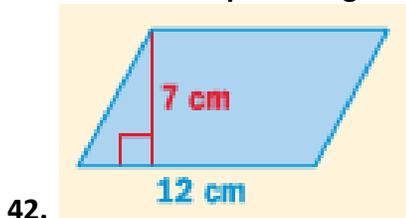
Approximate the square root to the nearest whole number.

37. \_\_\_\_\_  
 38. \_\_\_\_\_  
 39. \_\_\_\_\_

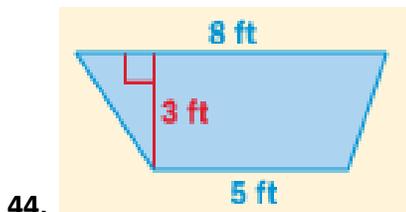
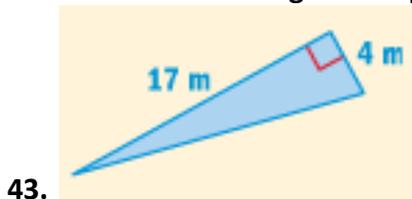
Find the unknown length of a right triangle using the formula

40.  $a=6$ ,  $b=8$   
 41.  $a=5$ ,  $c=13$

Find the area of the parallelogram. Use math chart



Find the area of the triangle or trapezoid. Use math chart.



Find the circumference and area of the circle using the information given. Use math chart.

45.  $d=8$

46.  $r=14$

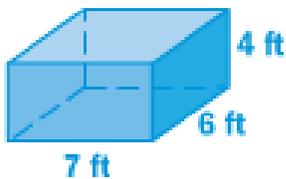
47. How many inches of trim are needed to put an edging around the circular tablecloth that is 60 inches in diameter?

48. Cheryl is putting a circular tulip bed in her backyard. The radius is 3 feet. How many square feet of her lawn will she lose when she puts in the tulip bed?

Find the surface area and volume of the rectangular prisms. Use math chart.

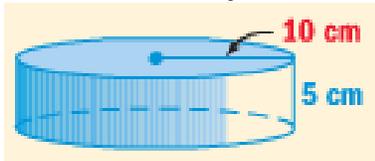


49.



50.

Find the volume of the cylinder. Use math chart.



51.

52. Find the volume of a cylinder with a diameter of 6 inches and a height of 6.5 inches. Use 3.14 for  $\pi$ .

53. A restaurant offers choices of chicken, beef, or pork entrée, soup or salad, and baked potato, mashed potatoes, or rice. Make a tree diagram to find the number of meal options.

54. What is the probability of getting at least one head when you toss a coin 3 times?

55. A bowl has 3 plums and 5 pears. A second bowl has 2 plums and 4 pears. You randomly choose 1 piece of fruit from the first bowl and 1 piece of fruit from the second bowl. What is the probability that both are plums?

56. You randomly choose a piece of fruit from the first bowl as described above, do not replace it, and randomly choose a second piece from the same bowl. What is the probability that both pieces of fruit are pears?