Name _____   Date _____

7   Incoming 7th Gr Summer Math Practice

Remember to show all of your work on a separate sheet(s)

Answers

Multiply or divide.

1. $4.5 \div 0.9$

2. $34.1 \div 5.5$

3. $2.7(7.8)$

4. $\dfrac{6}{7} \bullet \dfrac{5}{9}$

5. $\dfrac{4}{5} \div \dfrac{8}{11}$

6. $\dfrac{3}{8} \bullet \dfrac{4}{9}$

7. You need to buy 5 notebooks for your classes at school. Each notebook costs $2.79. What is the total cost of 5 notebooks before tax?

Complete the statement using <, >, or =.

8. $\dfrac{4 \text{ tables}}{3 \text{ groups}}$ ____ $\dfrac{6 \text{ tables}}{5 \text{ groups}}$

9. $\dfrac{66 \text{ pages}}{2 \text{ hours}}$ ____ $\dfrac{99 \text{ pages}}{3 \text{ hours}}$

10. You have $50 in your savings account. Each week you deposit $5 in your account. Write an expression that models the situation.

Solve the equation.

11. $x + 5 = 10$

12. $x - 2 = 6$

13. $x - 1 = 9$

14. $7 + x = 13$

15. $5x = 65$

16. $\dfrac{x}{3} = 11$

17. What is the surface area of a rectangular prism with length 5 centimeters, width 2 centimeters, and height 3 centimeters?
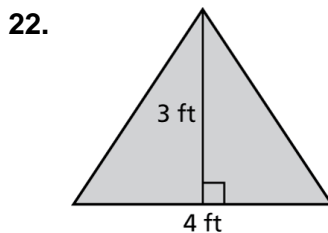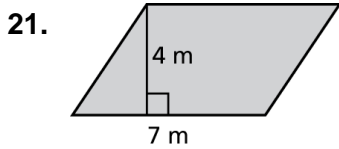
Tell whether the two expressions are equivalent.

18. $5 + 3b; \ 3b + 5$

19. $5(h + 7); \ 5h + 35$

20. $(2 - c)4; \ 2 - 4c$

Find the area of the figure.

21.

4 m
7 m

22.

3 ft
4 ft

23. What is the circumference of the circle? Use 3.14 for π.

4 in.

Answers
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. __See left.__
9. __See left.__
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____

7 (continued)
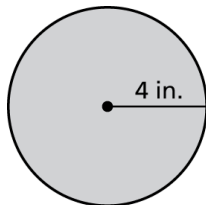
Answers

Write the decimal as a percent.

24. 0.89   **25.** 2.37   **26.** 0.0029

Write the percent as a decimal.

27. 3%   **28.** 78%   **29.** 500%

30. In a survey, $\dfrac{17}{25}$ of the people surveyed have a cat. What percent of the people surveyed have a cat?

Order the numbers from least to greatest.

31. $\dfrac{5}{8}$, 60%, 0.64   **32.** 34%, $\dfrac{4}{15}$, 0.3   **33.** 0.57, 5.8%, $\dfrac{14}{25}$

Estimate the sum or product.

34. $1.52(98)$ **35.** $2.04(3.97)$ **36.** $4.42 + 5.91$

Find the mean, median, mode(s), and range of the data set.

37. 5, 9, 12, 3, 4, 5, 7, 14, 13   **38.** 1, 7, 2, 3, 9, 4, 6, 10

39. The following data are the numbers of customers at a coffee shop over a 10-day period.

    135, 124, 140, 122, 409, 132, 119, 128, 136, 125

Which measure of center best represents the daily average number of customers at the coffee shop? Explain your reasoning.

Multiply or divide.

40. 56×18 **41.** $656 \div 41$ **42.** $184 \div 23$

Write the fraction as a decimal.

43. $\dfrac{13}{20}$ **44.** $\dfrac{3}{8}$ **45.** $\dfrac{21}{40}$

24. _____
25. _____
26. _____
27. _____
28. _____
29. _____
30. _____
31. _____
32. _____
33. _____
34. _____
35. _____
36. _____
37. _____
_____
38. _____
_____
39. _____
_____
40. _____
41. _____
42. _____
43. _____
44. _____
45. _____

Mathematics Reference Sheet

Conversions

U.S. Customary

1 foot = 12 inches
1 yard = 3 feet
1 mile = 5280 feet
1 acre ≈ 43,560 square feet
1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 gallon = 231 cubic inches
1 pound = 16 ounces
1 ton = 2000 pounds
1 cubic foot ≈ 7.5 gallons

U.S. Customary to Metric

1 inch = 2.54 centimeters
1 foot ≈ 0.3 meter
1 mile ≈ 1.61 kilometers
1 quart ≈ 0.95 liter
1 gallon ≈ 3.79 liters
1 cup ≈ 237 milliliters
1 pound ≈ 0.45 kilogram
1 ounce ≈ 28.3 grams
1 gallon ≈ 3785 cubic centimeters

Time

1 minute = 60 seconds
1 hour = 60 minutes
1 hour = 3600 seconds
1 year = 52 weeks

Temperature

$$C = \frac{5}{9}(F - 32)$$

$$F = \frac{9}{5}C + 32$$

Metric

1 centimeter = 10 millimeters
1 meter = 100 centimeters
1 kilometer = 1000 meters
1 liter = 1000 milliliters
1 kiloliter = 1000 liters
1 milliliter = 1 cubic centimeter
1 liter = 1000 cubic centimeters
1 cubic millimeter = 0.001 milliliter
1 gram = 1000 milligrams
1 kilogram = 1000 grams

Metric to U.S. Customary

1 centimeter ≈ 0.39 inch
1 meter ≈ 3.28 feet
1 kilometer ≈ 0.62 mile
1 liter ≈ 1.06 quarts
1 liter ≈ 0.26 gallon
1 kilogram ≈ 2.2 pounds
1 gram ≈ 0.035 ounce
1 cubic meter ≈ 264 gallon

Number Properties

Commutative Properties of Addition and Multiplication

$$a + b = b + a$$
$$a \cdot b = b \cdot a$$

Associative Properties of Addition and Multiplication

$$(a + b) + c = a + (b + c)$$
$$(a \cdot b) \cdot c = a \cdot (b \cdot c)$$

Addition Property of Zero

$$a + 0 = a$$

Multiplication Properties of Zero and One

$$a \cdot 0 = 0$$
$$a \cdot 1 = a$$

Distributive Property:

$$a(b + c) = ab + ac$$
$$a(b - c) = ab - ac$$

Properties of Equality

Addition Property of Equality

If $a = b$, then $a + c = b + c$.

Subtraction Property of Equality

If $a = b$, then $a - c = b - c$.

Multiplication Property of Equality

If $a = b$, then $a \cdot c = b \cdot c$.

Multiplicative Inverse Property

$$n \cdot \frac{1}{n} = \frac{1}{n} \cdot n = 1, n \neq 0$$

Division Property of Equality

If $a = b$, then $a \div c = b \div c, c \neq 0$.

Properties of Inequality

Addition Property of Inequality
If $a > b$, then $a + c > b + c$.

Multiplication Property of Inequality
If $a > b$ and c is positive, then $a \cdot c > b \cdot c$.
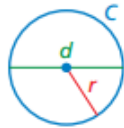If $a > b$ and c is negative, then $a \cdot c < b \cdot c$.

Subtraction Property of Inequality
If $a > b$, then $a - c > b - c$.

Division Property of Inequality
If $a > b$ and c is positive, then $a \div c > b \div c$.
If $a > b$ and c is negative, then $a \div c < b \div c$.

Circumference and Area of a Circle

$C = \pi d$ or $C = 2\pi r$

$A = \pi r^2$

$\pi \approx \dfrac{22}{7}$, or 3.14

Angles of Polygons

Sum of the Angle Measures of a Triangle

$x + y + z = 180$
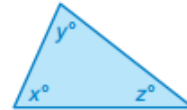
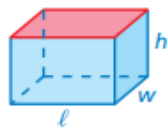**Sum of the Angle Measures of a Quadrilateral**
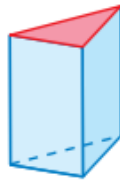
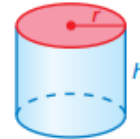$w + x + y + z = 360$

Surface Area

Prism

$S = 2\ell w + 2\ell h + 2wh$

$S = $ areas of bases
+ areas of lateral faces

Pyramid

slant height

$S = $ area of base
+ areas of lateral faces

Cylinder

$S = 2\pi r^2 + 2\pi rh$

Volume

Prism

area of base, B

height, h

$V = Bh$

area of base, B

height, h

$V = Bh$

Pyramid

height, h

area of base, B
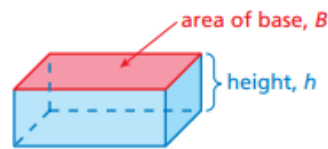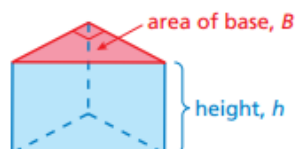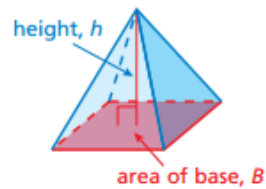
$V = \dfrac{1}{3}Bh$

Simple Interest

Simple interest formula
$I = Prt$