_____ 1. What is the absolute value? $|-15|$ — absolute value is always positive
(15) — distance from 0 on # line

_____ 2. Solve. $-2 + 7 + (-6)$
(-1)

_____ 3. When a = -10 and b = -6, which expression has a value of -4?

a. a + b   c. a - b
b. |a + b| d. |a - b|

a) $-10 + -6 = -16$ c) $-10 - -6 = -4$
b) $|-16| = 16$ d) $|-4| = 4$

_____ 4. The temperature is -8°F at 7am. During the next 3 hours, it increases 20°F. What is the temperature at 10am?

$-8 + 20 = 12°F$ add

_____ 5. Solve. $-5 - 13$ -18

_____ 6. Solve. $16 - 28$ -12

_____ 7. Solve. $-14 - 8$ -22

_____ 8. Solve for b. $9b + 15 = 57$ →

$4.\overline{6}$

$9b + 15 = 57$
$\quad\quad -15$
$9b = 42$
$\quad \div 9$
$b = 4.\overline{6}$

_____ 9. What makes a graph proportional?
- goes through origin (0,0)
- makes a straight line   -has a constant

_____ 10. Evaluate the expression. $0.7^2 \div |9.7 - 6.2|$

$0.49 \div 3.5 = 0.14$

_____ 11. Solve. $-8 \cdot 5$ -40

_____ 12. $-4 \cdot (-13)$ 52

_____ 13. $\frac{3}{4} \cdot \frac{-1}{6}$ $-\frac{1}{8}$

_____ 14. Solve. $-24 \div -4$ 6

_____ 15. Solve. $\frac{3}{4} \div \frac{1}{4}$ 3

_____ 16. Write the rational number as a decimal. $\frac{8}{9}$ type $8 \div 9$ or use green 2nd key then answer
$0.\overline{8}$

_____ 17. Write the rational number as a decimal. $\frac{-4}{12}$ $-0.\overline{3}$

_____ 18. Write the decimal as a fraction. 0.35 $\frac{7}{20}$

_____ 19. Find the sum. $-2\frac{1}{3} + 3\frac{2}{3}$

$1\frac{1}{3}$

_____ 20. Find the sum. $2x + y$ when $x = \frac{1}{4}$ and $y = \frac{-1}{2}$

$2\left(\frac{1}{4}\right) + \left(\frac{-1}{2}\right) = 0$

_____ 21. Complete the statement using < , > , or =. -7.08 $\geq$ -7.09 *when both are neg. the bigger # is actually smaller*

  a. <   b. =   c. >

_____ 22. Complete the statement using < , > , or =. 1.5 $\geq$ $\frac{2}{3}$ 0.$\bar{6}$

  a. >   b. =   c. <

_____ 23. Solve. 0.15 + 5.8 **5.95**

_____ 24. " Flipping" the fraction upside down is called what?

  a. Additive inverse   c. Inverse
  b. Reciprocal   d. Multiplying the fraction

_____ 25. Simplify the expression. (Combine like terms.) 5u – 2u + 8

        3u + 8

_____ 26. Simplify the expression. (Combine like terms.) (2b – 4) - (-5b + 9)   **7b – 13**

    2b - -5b = 7b   -4 - 9 = -13

_____ 27. Solve the equation. -7 = x – 21

    +21
    14 = x

_____ 28. Solve. $-\frac{1}{3}$ c = 5

    $\div -\frac{1}{3}$
    c = -15

_____ 29. Solve. 2t = -12

    $\div 2$
    t = -6

_____ 30. A 2-month membership to the gym costs $125. Jim would like to be a member for 8 months. What is the total amount he will pay?

$$\frac{2 \text{ months}}{\$125} = \frac{8 \text{ months}}{\$ X}$$ **x = $500**

_____ 31. There are 400 people at a play. The ratio of males to females is 1 : 4. Find the number of females.

$$\frac{x}{\text{total } 400} = \frac{4}{5 \text{ total}}$$ **x = 320 females**

_____ 32. Solve and graph the inequality. x – 5 > 11

    +5
    x > 16

    16

    ≤ ≥ closed dot

_____ 33. Solve and graph the inequality. $\frac{b}{4}$ > -12

    • 4
    b > -48

    -48

    < > open dot

_____ 34. Solve and graph the inequality. $5c \leq -30$

$\div 5$

$c \not\leq -6$

←———•———→

-6

_____ 35. Write the ratio as a fraction in simplest form.   27 even: 15 odd

$\dfrac{27 \div 3}{15 \div 3} = \boxed{\dfrac{9}{5}}$

_____ 36. Find the unit rate. 380 miles in 4 hours $380 \div 4 = 95$ miles in 1 hour

_____ 37. Solve for y. $-7(y - 4) = -32$

distribute

$-7y + 28 \not= -32$

$\begin{array}{r} -28 \\ \hline \end{array}$

$-7y \not= -66$

$\div -7$

$\boxed{y = 8.57}$

_____ 38. Solve the proportion. $\dfrac{7}{5} = \dfrac{a}{15}$

$\boxed{a = 21}$

_____ 39. Solve the proportion. $\dfrac{d}{8} = \dfrac{73}{4}$

$\boxed{d = 146}$

_____ 40. Write and proportion and solve.

48 cupcakes are packaged in 4 boxes. How many cupcakes are packaged in 9 boxes?

$\dfrac{48 \text{ cupcakes}}{4 \text{ boxes}} = \dfrac{x}{9 \text{ boxes}}$ $\boxed{x = 108 \text{ cupcakes}}$
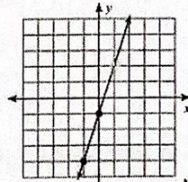
_____ 41. Find the constant of proportionality from the graph.

*Bad question!
Doesn't go through
(0,0) so there
isn't a constant!

_____ 42. Simplify. Write your answer using exponents. $3^3 \cdot 3^1$

dot in the middle, add exponents

$\boxed{3^4}$

x	y

_____ 43. Find the constant from the table given.

x	y
-3	-15
-4	-20
3	15
1	5

$y \div x$

$-15 \div -3 = 5$

$-20 \div -4 = 5$

$K = 5$

_____ 44. Write the product using exponents. $4 \cdot 4 \cdot 5 \cdot 5 \cdot 5$

$4^2 \cdot 5^3$

_____ 45. Simplify using the distributive property. $7x - 6(-4x + 2)$

$7x + 24x - 12$

$31x - 12$

_____ 46. Tell whether the rates are equivalent. 4 inches to 2.5 years

$4 \div 2.5 = 1.6$

1 foot in 7.5 years

$12 \text{ inches} \div 7.5 = 1.6$

yes

_____ 47. You have $60 to buy t-shirts. You can buy 3 t-shirts for $24. Do you have enough money to buy 7 t-shirts?

$\dfrac{3 \text{ tshirts}}{\$24} = \dfrac{7 \text{ tshirts}}{X}$

$x = \$56$

yes I have enough $

_____ 48. The distance from zero on a number line and the answer is always positive

a. Opposite number

b. Absolute value

c. Distributive Property

d. Reciprocal

_____ 49. Evaluate. 12^2

$12 \cdot 12 = 144$

_____ 50. The table shows the relationship between the number of miles traveled, and the gallons of gas used, y. Write an equation that best represents the relationship.

x	5	10	15	20	25
y	1	2	3	4	5

$y = Kx$

$y \div x$

$1 \div 5 = \frac{1}{5}$

$2 \div 10 = \frac{1}{5}$

$y = \frac{1}{5}x$