

$$2 \cdot 2^3 + \sqrt{3(2)^2} = 16 + 2\sqrt{3}$$

1. Simplify the expression $\frac{x^{-3}}{x} + \sqrt{3x^2}$ if $x = 2$.

$$y = \frac{x}{k} - \frac{x}{6}$$

2. Solve for y. $xy + 6 = k$

3. $p = 2l + 2w$ is the formula for finding the area of a rectangle. Rewrite the equation solving for w.

$$w = \frac{p}{2} - l$$

$$x = 6$$

4. Solve the equation. $3x + 4 = 2x + 10$

$$x = 4$$

$$2x = 8$$

5. Find the value of x. $2(3x + 2) = 4(x + 3)$

NO SOLUTION

6. What is the solution of $|x + 4| + \frac{12}{x} = 6$?

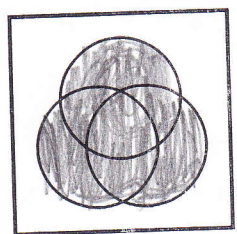
$$|x+4| = -6$$

$$x > -3$$

7. What is the solution of $\frac{-x}{2} - 6x < 20$?

$$-6x < 18$$

8. Complete the Venn Diagram to represent $A \cup B \cup C$.



9. The universal set includes the numbers 1-9, inclusive. Set $A = \{1, 3, 5, 7, 9\}$. What is A' ?

$$\{2, 4, 6, 8\}$$

10. If set $C = \{\text{odd numbers}\}$ and set $D = \{1, 6, 10, 12, 15\}$ what is $C \cap D$?

$$\{1, 15\}$$

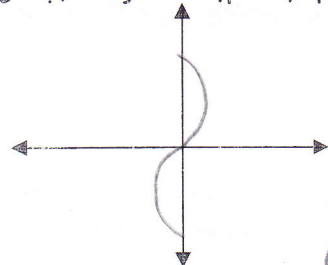
11. Which set of ordered pairs is a linear function?

- a. $\{(0, 1)(1, 2)(2, 4)(3, 5)\}$
- b. $\{(1, 3)(2, 4)(3, 4)(2, 5)\}$
- c. $\{(3, 4)(4, 4)(3, 5)(4, 5)\}$
- d. $\{(1, 2)(3, 4)(5, 6)(7, 8)\}$

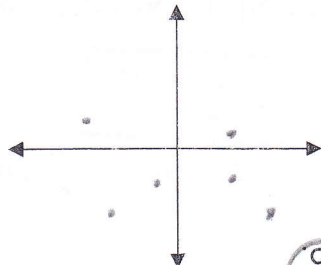
must have a pattern

13. Which is a linear function?

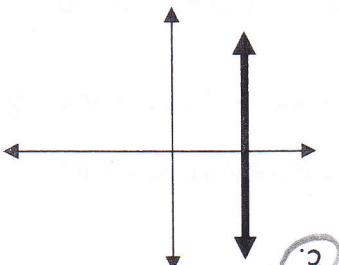
a. $y = x^2 + 4$



b. $y^2 = x$



c. $y = x + 4$



14. Judy and Amy sign up for different cell phone plans at the same time. Judy pays a \$50 enrollment fee and \$15 per month. Amy's plan has a free enrollment fee and she pays \$20 per month. After how many months will Judy and Amy have paid the same amount for their membership?

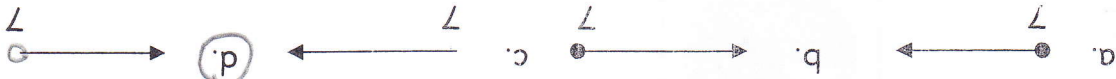
$50 + 15m = 20m$
 $50 = 5m$
 $10 = m$
10 months

15. A department store sends back any clothes with buttons whose size differs more than 0.5mm from 7.0mm. Solve the equation $|d - 7.0| = 0.05$ to find the maximum and minimum diameters of acceptable buttons.

$d - 7 = 0.05$
 $d = 7.05$
 $d - 7 = -0.05$
 $d = 6.95$
Max 7.05 mm, 6.95

16. Which graph best displays the solution to this situation: Danny can spend \$75 at Wal-Mart. In his cart, he has X-box games that each cost \$12. What is the number of games he can buy without exceeding his limit?

$12x \leq 75$
 $x \leq 6.25$



17. Katie earns \$55 a day plus \$8 for every bracelet she creates. She earned less than \$125 yesterday. Write an inequality to find the maximum number of bracelets Katie created yesterday if b represents the number of bracelets.

$55 + 8b < 125$

$8b < 70$
 $b < 8.75$