

1. ⁽⁶⁰⁾ A photograph is in the shape of a rectangle. It has a length of $(x + 3)$ inches and a width of $(x - 3)$ inches. What is the area of the photograph?

2. ⁽⁶¹⁾ Graph $f(x) = x$ and $f(x) = x - 3$ on the same coordinate grid. Compare the graph of $f(x) = x - 3$ to the parent graph. Use the y -intercept in your comparison.

3. ⁽⁶²⁾ Find the degree of the monomial $3x^3y^2z^4$.

4. ⁽⁶³⁾ Multiply $-3ab(2a^2 + 4b + 3c)$.

Simplify problems 5-8.

5. ⁽⁶⁴⁾ $\frac{6x}{y^2} - \frac{8x}{y^2}$

6. ⁽⁶⁵⁾ $\sqrt[3]{125}$

7. ⁽⁶⁶⁾ $\frac{3x^2 + 6x}{6x + 12}$

8. ⁽⁶⁷⁾ $\frac{a^2 - ab}{b(c-3)} + \frac{cb^3}{a-3}$

9. ⁽⁶⁸⁾ Determine which of the values below are part of the solution set of the inequality $5 - 2x < 9$.
 $\{-2, -1, 0, 1, 2\}$

10. ⁽⁶⁹⁾ Find the LCM of 7, 8, and 10.

11. ⁽⁷⁰⁾ What is the solution to the system of equations?

$y = 4x - 1$

$y = 2x + 1$

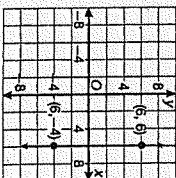
12. ⁽⁷¹⁾ Determine the slope of the line that contains the points shown in the table.

x	y
0	3
5	11
15	27

13. ⁽⁷²⁾ A shoe store is having a sale of 25% off all boots. What is the discount and new price of a pair of boots that originally cost \$95?

14. ⁽⁷³⁾ Translate the sentence below into an inequality.
 0.3 is greater than the sum of 1.2 and a number

15. ⁽⁷⁴⁾ Find the slope of the vertical line.



16. ⁽⁷⁵⁾ What number is 125% of 15?
17. ⁽⁷⁶⁾ A fruit stand sells 3 pounds of tomatoes for \$2. Graph the relationship and use the graph to estimate the cost of 7 pounds of tomatoes.

18. ⁽⁷⁷⁾ The table shows the math test scores for two classes at a school. Does Class A or Class B have a greater range of scores for the math test?

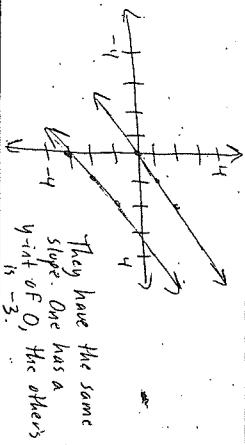
Scores on Math Test	
Class A	91, 67, 98, 77, 58, 65, 88, 85, 81, 79, 63, 99, 82, 76, 100
Class B	87, 56, 87, 43, 91, 87, 58, 80, 86, 78, 74, 82, 67, 78, 65

19. ⁽⁷⁸⁾ Determine the slope and y -intercept of the equation $3x + 4y = 12$.

20. ⁽⁷⁹⁾ Barry is selling baseball cards. He sold 2 for \$7 and 3 for \$10. What will Barry charge for 5 baseball cards if he keeps selling cards at the same rate?

SCORE: _____

1. $A = L \cdot W$
 $= (x+3)(x-3)$
 $= x^2 - 3x + 3x - 9$
 $= x^2 - 9$ inches²



3. $3x^3y^2z^4$
 ↓ 1st Power
 ↓ 4th Power
 ↓ 3rd Power
 $3 + 1 + 4 = 8$ Degree
 Degree = Add up exponents on variables!

4. $-3ab(2a^2 + 4b + 3c)$
 $= -6a^3b - 12ab^2 - 9abc$

5. $\frac{6x}{y^2} - \frac{8x}{y^2} = \frac{-2x}{y^2}$

6. $\sqrt[3]{125} = 5 \cdot 5 \cdot 5 = 125$
 (5)

7. $\frac{3x^2 + 6x}{6x + 12} = \frac{3x(x+2)}{6(x+2)} = \frac{3x}{6} = \frac{1}{2}$
 $\frac{3x^2 + 6x}{x^2 + 2x} = \frac{3x(x+2)}{x(x+2)} = \frac{3x}{x} = 3$
 $\frac{3x^2 + 6x}{x^2 + 2x} = \frac{3x(x+2)}{x(x+2)} = \frac{3x}{x} = 3$
 $\frac{3x^2 + 6x}{x^2 + 2x} = \frac{3x(x+2)}{x(x+2)} = \frac{3x}{x} = 3$
 $\frac{3x^2 + 6x}{x^2 + 2x} = \frac{3x(x+2)}{x(x+2)} = \frac{3x}{x} = 3$

8. $\frac{a^2 - ab + cb^3}{c^3} + \frac{cb^3}{a^3}$
 $\frac{1}{a^2b} \left(\frac{abc^3 + cb^3a^3}{a^2b} \right)$
 $\frac{abc^3}{a^2b} + \frac{a^3b^3}{a^2b}$
 $\frac{c^3}{a} + \frac{ab^3}{1}$

9. $5 - 2x < 9$
 $5 - 2(-1) < 9$ TRUE!
 $5 - 2(0) < 9$ TRUE!
 $5 - 2(1) < 9$ TRUE!
 $5 - 2(2) < 9$ TRUE!
 $5 - 2(3) < 9$ TRUE!
 $5 - 2(4) < 9$ FALSE!
 $5 - 2(5) < 9$ FALSE!
 Solutions = $\{-1, 0, 1, 2, 3\}$

10. $2 \cdot 7 \cdot 4 \cdot 5 = 280$

11. $y = 4x - 1$
 $y = 2x + 1$
 * Substitute $(2x+1)$ for y in top equation:
 $2x + 1 = 4x - 1$
 $-4x + 2x = -1 - 1$
 $-2x = -2$
 $x = 1$
 $y = 4(1) - 1 = 3$
 Solution: $(1, 3)$

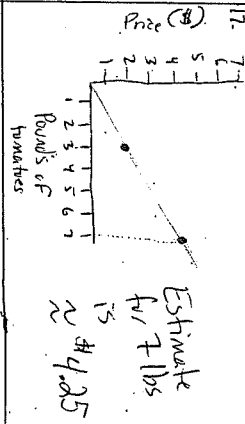
12. $\frac{y_2 - y_1}{x_2 - x_1} = \frac{3 - 1}{5 - 0} = \frac{2}{5}$
 Slope = $\frac{2}{5}$

13. $95 \times 0.25 = 23.75$ discount
 $95 - 23.75 = 71.25$ new price

14. $0.3 > 1.2 + n$
 OR
 $1.2 + n < 0.3$

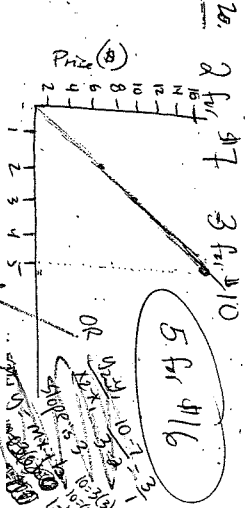
15. Vertical lines have undefined slope!
 $\frac{y_2 - y_1}{x_2 - x_1} = \frac{-4 - 6}{7 - 6} = \frac{-10}{1} = -10$
 (cannot divide)

16. $\frac{P\%}{100} = \frac{15}{100}$
 $\frac{125}{100} = \frac{x}{100}$
 $125 \cdot 15 = 1875$
 $1875 \div 100 = 18.75$
 $1.25 \times 15 = 18.75$



18. Class A Range = $100 - 58 = 42$
 Class B Range = $91 - 43 = 48$
 Class B has a greater range

19. $3x + 4y = 12$
 * Solve for y .
 $\frac{3x + 4y = 12}{-3x} = \frac{-3x + 12}{-3x}$
 $4y = \frac{-3x + 12}{4}$
 $y = \frac{-3x + 12}{4} = -\frac{3}{4}x + 3$
 Slope = $-\frac{3}{4}$
 y-int = 3



20. $(2, 7)$ $(3, 10)$ Plug into $y = mx + b$
 $7 = 3(2) + b$
 $7 = 6 + b$
 $1 = b$
 $y = 3x + 1$
 Slope = $\frac{y_2 - y_1}{x_2 - x_1} = \frac{10 - 7}{3 - 2} = 3$