

Algebra 2 Summer work

Evaluate each expression.

1) $2 - 6 \div 6$

2) $6 - (4 - 2)$

Evaluate each using the values given.

5) $-5x^2 - (x + y)$; use $x = -2$, and $y = 5$

6) $|-5|\left(\frac{n}{3} - p\right)$; use $n = -9$, and $p = 2$

Solve each proportion.

7) $\frac{v - 3}{v + 5} = -\frac{12}{7}$

8) $\frac{11}{b - 1} = \frac{6}{b + 1}$

Find each percent change. State if it is an increase or a decrease.

9) From 12 to 15

10) From 16.6 to 13

Solve each problem.

15) What is 42% of 66?

16) What is 98% of 1.8?

Solve each equation.

21) $6x - 5x = 0$

22) $17 = n + 2 + 4n$

27) $|-6n| = 6$

28) $|5x| = 30$

Solve each equation. Remember to check for extraneous solutions.

33) $2 = \sqrt{\frac{m}{4}}$

34) $1 = \sqrt{n+5}$

Simplify. Your answer should contain only positive exponents.

39) $n \cdot n^3 \cdot 2n$

40) kk^2

Simplify each expression.

53) $(7n^4 - 14 - 5n^3) - (7 - 8n^3 + 11n^4)$

54) $(12x + 10x^3 - 7) + (6x^3 + 14 + 4x)$

Find each product.

57) $(2x + 4)(2x - 2)$

58) $(4n + 5)(n + 4)$

Divide.

67) $(10v^4 + 30v^3 + 2v^2) \div 10v$

68) $(18b^3 + 2b^2 + 3b) \div 6b$

Factor each completely.

69) $p^2 - 9p + 18$

70) $p^2 - 8p - 9$

Solve each equation by factoring.

81) $(3x + 1)(x + 4) = 0$

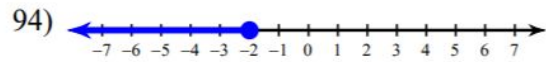
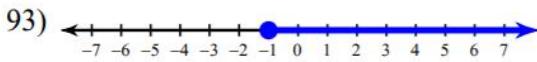
82) $(r - 1)(r + 1) = 0$

Solve each equation with the quadratic formula.

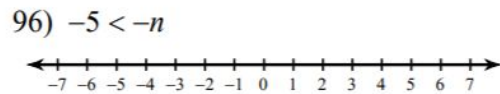
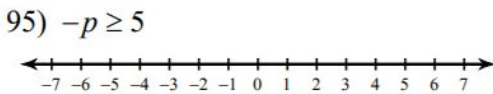
87) $n^2 - 2n - 3 = 0$

88) $x^2 - 3x - 18 = 0$

Write an inequality for each graph.



Draw a graph for each inequality.



Simplify.

109) $\sqrt{8}$

110) $\sqrt{27}$

111) $3\sqrt{486v^3}$

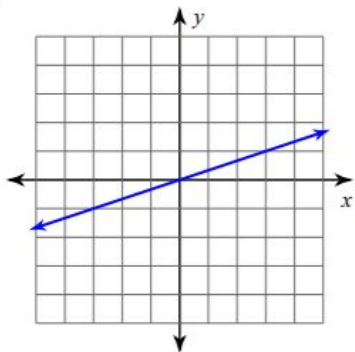
112) $-5\sqrt{256x}$

Find the slope of each line.

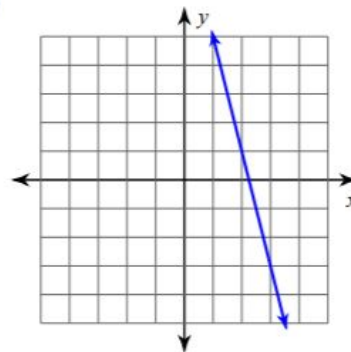
131) $y = \frac{5}{4}x + 5$

132) $y = -\frac{5}{2}x + 5$

133)



134)



Find the slope of a line parallel to each given line.

135) $x = 4y$

136) $1 - y = 4x$

Find the slope of the line through each pair of points.

137) $(17, 2), (-3, -4)$

138) $(4, -18), (-12, 20)$