

REVIEW Simplifying Radicals & Factoring

Simplify.

1) $\sqrt{48} = 4\sqrt{3}$

2) $\sqrt{125} = 5\sqrt{5}$

3) $5\sqrt{343} = 35\sqrt{7}$

4) $-5\sqrt{128} = -40\sqrt{2}$

Solve each equation with the quadratic formula.

5) $9n^2 + 6n - 22 = 0$

$$X = \frac{-6 \pm 6\sqrt{23}}{18}$$

$$X = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

6) $5x^2 + 10x - 23 = 0$

$$X = \frac{-10 \pm 4\sqrt{35}}{10}$$

Factor the common factor out of each expression.

7) $5b^3 + 5b = 5b(b^2 + 1)$

8) $-5n^4 + n^3 = n^3(-5n + 1)$

9) $20a^8b + 14a^2b^2 + 2ab^2$

$$= 2ab(10a^7 + 7ab + b)$$

10) $15u^3v^2 + 12uv^3 - 18uv$

$$= 3uv(5u^2v + 4v^2 - 6)$$

Factor each completely using difference of squares.

11) $4k^2 - 25 = (2k + 5)(2k - 5)$

12) $9a^2 - 4 = (3a + 2)(3a - 2)$

13) $25k^2 - 9 = (5k + 3)(5k - 3)$

14) $x^2 - 25 = (x + 5)(x - 5)$

Factor the Trinomials

$$15) n^2 - 11n + 18 = (n-2)(n-9)$$

$$16) x^2 - 7x - 30 = (x+3)(x-10)$$

$$17) x^2 + 5x + 4 = (x+4)(x+1)$$

$$18) b^2 - 9b + 18 = (b-6)(b-3)$$

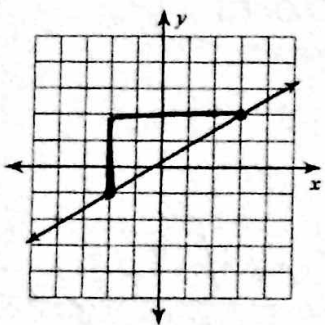
REVIEW: Simplify each expression.

$$19) (3p - 3p^2) + (3p^3 - p^2 + 7p) = 3p^3 - 4p^2 + 10p$$

$$20) (8r^3 - 1) - (r^3 - 5r - 2) = 7r^3 + 5r + 1$$

Find the slope of each line.

21)



$$m = \frac{3}{5}$$

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

$$22) (-9, -12), (0, -12)$$

$$m = 0$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$23) (-2, 9), (9, 1)$$

$$m = \frac{-8}{11}$$

Solve each equation.

$$24) -3m + 23 = 5 + 2(m - 1)$$

$$m = 4$$

$$25) 34 - 3k = 8(1 - 2k)$$

$$k = -2$$