

5.2 Solving by Factoring

Solve each equation by factoring.

1) $r^2 - 7r + 10 = 0$

2) $m^2 + 10m + 16 = 0$

3) $n^2 + n - 12 = 0$

4) $x^2 + 7x + 12 = 0$

5) $n^2 + 7n + 5 = -7$

6) $v^2 + 4v + 4 = 4$

7) $x^2 + 12x + 39 = 7$

8) $b^2 - b - 4 = -4$

9) $a^2 + 16 = -10a$

10) $v^2 + 35 = 12v$

11) $x^2 + 40 = 13x$

12) $x^2 + x = 56$

$$13) 3p^2 - 16p + 5 = 0$$

$$14) 3m^2 - 5m - 8 = 0$$

$$15) 8k^2 + 23k - 3 = 0$$

$$16) 2m^2 + 5m - 7 = 0$$

$$17) 2n^2 - 9n + 15 = 5$$

$$18) 7r^2 + 3r - 6 = -6$$

$$19) 8x^2 - 19x - 9 = 6$$

$$20) 2a^2 - 7a - 6 = -2$$

$$21) 7v^2 - 8v = 12$$

$$22) 6x^2 + 5x = -1$$

$$23) 2n^2 + 5 = -11n$$

$$24) 7x^2 - 4 = -27x$$

Simplify each expression.

25) $(8r^2 + 7r + 5r^4) + (8r^2 - 4r^3 + 5r^4 + r)$

26) $(2p^2 + 7p^4 - 2p) - (7 - 7p + 7p^4 + 7p^2)$

Find each product.

27) $(5r + 5)(2r + 1)$

28) $(8b - 1)(b - 7)$

Find the following.

a: x and y intercepts

b: max or min

c: increasing, decreasing, constant

d: positive, negative

e: symmetry

29)

