

Solving Quadratics by Factoring

Date _____

Solve each equation by factoring. (every 6 questions is another level of difficulty)

1) $p^2 + 2p = 0$

2) $a^2 - a = 0$

3) $p^2 + p - 6 = 0$

4) $n^2 - 3n - 10 = 0$

5) $n^2 + 5n = 0$

6) $n^2 - n - 12 = 0$

7) $m^2 - 15 = 2m$

8) $m^2 + 10m = -21$

9) $m^2 + 56 = 15m$

10) $p^2 + 8 = 6p$

11) $x^2 = -30 + 11x$

12) $x^2 = 18 - 3x$

13) $2x^2 - 15x + 7 = 0$

14) $5k^2 - 6k = 0$

15) $18n^2 + 60n - 48 = 0$

16) $5p^2 + 33p - 14 = 0$

17) $7n^2 - 30n - 25 = 0$

18) $21x^2 - 98x - 35 = 0$

19) $30x^2 - 132x = 90$

20) $57 + 100b = -18b^2 - 2b - 3$

21) $16x^2 - 42x - 200 = -2x$

22) $21b^2 - 8b = 32 - 3b^2$

23) $-240 + 126a = -294a^2$

24) $15a^2 - 11a + 1 = -3a$

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$\{-2, 0\}$

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$\{1, 0\}$

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$\{2, -3\}$

4) $n^2 - 3n - 10 = 0$

$\{-2, 5\}$

5) $n^2 + 5n = 0$

$\{-5, 0\}$

6) $n^2 - n - 12 = 0$

$\{-3, 4\}$

7) $m^2 - 15 = 2m$

$\{5, -3\}$

8) $m^2 + 10m = -21$

$\{-3, -7\}$

9) $m^2 + 56 = 15m$

$\{8, 7\}$

10) $p^2 + 8 = 6p$

$\{4, 2\}$

11) $x^2 = -30 + 11x$

$\{6, 5\}$

12) $x^2 = 18 - 3x$

$\{3, -6\}$

13) $2x^2 - 15x + 7 = 0$ $\left\{\frac{1}{2}, 7\right\}$

14) $5k^2 - 6k = 0$ $\left\{\frac{6}{5}, 0\right\}$

15) $18n^2 + 60n - 48 = 0$ $\left\{\frac{2}{3}, -4\right\}$

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22) $21b^2 - 8b = 32 - 3b^2$ $\left\{\frac{4}{3}, -1\right\}$

23) $-240 + 126a = -294a^2$ $\left\{-\frac{8}{7}, \frac{5}{7}\right\}$

24) $15a^2 - 11a + 1 = -3a$ $\left\{\frac{1}{3}, \frac{1}{5}\right\}$

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2) $n^2 + 9n + 20 = 0$

3) $n^2 + 3n - 10 = 0$

4) $b^2 + b - 20 = 0$

5) $n^2 - 6n + 8 = 0$

6) $k^2 - 4k - 5 = 0$

7) $p^2 - 3 = -2p$

8) $x^2 = -10x - 24$

9) $k^2 - 4k = 32$

10) $r^2 + 10 = 7r$

11) $n^2 = 3n$

12) $x^2 - x = 42$

13) $35k^2 + 9k - 56 = 0$

14) $24n^2 - 16n - 128 = 0$

15) $49n^2 + 21n - 18 = 0$

16) $120n^2 + 416n + 256 = 0$

17) $28k^2 + 16k = 0$

18) $42a^2 - 80a + 32 = 0$

19) $-50 - 106n = 6 - 2n - 16n^2$

20) $-17 - 5x = 3 - 9x^2 - 2x$

21) $126b^2 - 192b = 30$

22) $5n^2 - 29n - 5 = 1$

23) $3a^2 - 6 = -2a^2 + 6 - 28a$

24) $41n^2 + 49n - 7 = 1 - 8n^2$

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8) $x^2 = -4 + 5x$

9) $a^2 = 4a + 12$

10) $x^2 = x + 12$

11) $v^2 = -18 + 9v$

12) $x^2 = -6 - 5x$

13) $3x^2 - 31x + 56 = 0$

14) $25a^2 + 60a + 35 = 0$

15) $3n^2 + 11n - 4 = 0$

16) $40n^2 + 336n + 128 = 0$

17) $21k^2 + 9k = 0$

18) $7n^2 - 50n - 48 = 0$

19) $35n^2 - 110n + 9 = -6$

20) $15 - 14a = -3a^2$

21) $33x = -9x^2 - 18$

22) $10x^2 - 7x - 25 = 8x - 7 + 3x^2$

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