Precalculus 11

Name_____

Solving quadratic equations

Date_____ Period_____

Solve each equation by factoring.

1) $x^2 = -10x - 16$

2) $p^2 + 8p = -16$

3) $m^2 - 48 = -2m$

4) $n^2 = 20 + n$

5) $r^2 = -4r$

6) $x^2 = -5x - 4$

Solve each equation by completing the square.

7) $x^2 + 8x - 10 = 10$

8) $n^2 - 16n - 58 = -5$

9) $b^2 - 20b - 77 = -8$

10) $r^2 + 14r + 31 = 7$

11) $a^2 + 20a + 79 = -7$

12) $n^2 + 4n - 3 = 10$

Solve each equation by taking square roots.

13) $10n^2 + 6 = 816$

14) $9r^2 - 3 = -46$

15) $2x^2 - 4 = 68$

16) $8m^2 + 1 = 129$

Solve each equation with the quadratic formula.

17) $3p^2 = 6 - 7p$

18) $n^2 - 4 = 10n$

19) $12k^2 - 6 = -12k$

20) $-4m^2 + 8 = -11m$

21) $2 = 3n^2 - 5n$

22) $-8x^2 = -7$

23) $5r^2 = 120 + r$

24) $-80 = -2a^2 - 12a$

25) $-56 - 2b = -4b^2$

26) $104 + 5x = x^2$

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Date_____ Period_____

Solve each equation by factoring.

1) $x^2 = -10x - 16$

$\{-8, -2\}$

2) $p^2 + 8p = -16$

$\{-4\}$

3) $m^2 - 48 = -2m$

$\{-8, 6\}$

4) $n^2 = 20 + n$

$\{-4, 5\}$

5) $r^2 = -4r$

$\{-4, 0\}$

6) $x^2 = -5x - 4$

$\{-4, -1\}$

Solve each equation by completing the square.

7) $x^2 + 8x - 10 = 10$

$\{2, -10\}$

8) $n^2 - 16n - 58 = -5$

$\{18.817, -2.817\}$

9) $b^2 - 20b - 77 = -8$

$\{23, -3\}$

10) $r^2 + 14r + 31 = 7$

$\{-2, -12\}$

11) $a^2 + 20a + 79 = -7$

$\{-6.258, -13.742\}$

12) $n^2 + 4n - 3 = 10$

$\{2.123, -6.123\}$

-1-

Solve each equation by taking square roots.

13) $10n^2 + 6 = 816$

$\{9, -9\}$

14) $9r^2 - 3 = -46$

No solution.

15) $2x^2 - 4 = 68$

$\{6, -6\}$

16) $8m^2 + 1 = 129$

$\{4, -4\}$

Solve each equation with the quadratic formula.

17) $3p^2 = 6 - 7p$

$\{0.667, -3\}$

18) $n^2 - 4 = 10n$

$\{10.385, -0.385\}$

19) $12k^2 - 6 = -12k$

$\{0.366, -1.366\}$

20) $-4m^2 + 8 = -11m$

$\{-0.597, 3.347\}$

21) $2 = 3n^2 - 5n$

$\{-0.333, 2\}$

22) $-8x^2 = -7$

$\{-0.935, 0.935\}$

23) $5r^2 = 120 + r$

$\{5, -4.8\}$

24) $-80 = -2a^2 - 12a$

$\{4, -10\}$

25) $-56 - 2b = -4b^2$

$\{4, -3.5\}$

26) $104 + 5x = x^2$

$\{-8, 13\}$