

## Solving by Factoring &amp; Taking Square Roots

Date \_\_\_\_\_ Period \_\_\_\_\_

**Solve each equation by factoring.**

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

2)  $v^2 + 56 = 15v$

3)  $r^2 - 10 = -3r$

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

5)  $7v^2 + 168 = -70v$

6)  $3x^2 = -96 - 36x$

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

8)  $n^2 + 3 = 4n$

9)  $k^2 - 3 = -2k$

10)  $5x^2 = 80 + 30x$

11)  $n^2 + 7n - 44 = -4 + 4n$

12)  $2k^2 + 4k - 35 = k^2 - 3$

13)  $7m^2 + 3 = 6m^2 - 4m$

14)  $x^2 - 10x + 16 = -8$

15)  $3a^2 + 3a = 42 + 4a + 2a^2$

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

17)  $x^2 - 20x + 64 = -5x + 8$

18)  $4x^2 - 47 = -3x^2 + 2 + 42x$

19)  $3a^2 + 14a - 144 = 8a$

20)  $3n^2 + 18n + 2 = 2$

**Solve each equation by taking square roots.**

21)  $3n^2 - 8 = 130$

22)  $4p^2 - 6 = 170$

23)  $16x^2 + 10 = 59$

24)  $2 + 9b^2 = 38$

25)  $10n^2 + 3 = 343$

26)  $10x^2 - 7 = 53$

27)  $6a^2 - 2 = 322$

28)  $25x^2 + 6 = 31$

29)  $6 - 9v^2 = -93$

30)  $9r^2 + 10 = 325$

## Solving by Factoring &amp; Taking Square Roots

Date \_\_\_\_\_ Period \_\_\_\_\_

**Solve each equation by factoring.**

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

 $\{2, 3\}$ 

3)  $r^2 - 10 = -3r$

 $\{-5, 2\}$ 

5)  $7v^2 + 168 = -70v$

 $\{-6, -4\}$ 

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

 $\{2, 1\}$ 

9)  $k^2 - 3 = -2k$

 $\{-3, 1\}$ 

11)  $n^2 + 7n - 44 = -4 + 4n$

 $\{-8, 5\}$ 

13)  $7m^2 + 3 = 6m^2 - 4m$

 $\{-3, -1\}$ 

15)  $3a^2 + 3a = 42 + 4a + 2a^2$

 $\{-6, 7\}$ 

17)  $x^2 - 20x + 64 = -5x + 8$

 $\{7, 8\}$ 

19)  $3a^2 + 14a - 144 = 8a$

 $\{-8, 6\}$ 

2)  $v^2 + 56 = 15v$

 $\{8, 7\}$ 

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

 $\{2\}$ 

6)  $3x^2 = -96 - 36x$

 $\{-8, -4\}$ 

8)  $n^2 + 3 = 4n$

 $\{1, 3\}$ 

10)  $5x^2 = 80 + 30x$

 $\{8, -2\}$ 

12)  $2k^2 + 4k - 35 = k^2 - 3$

 $\{4, -8\}$ 

14)  $x^2 - 10x + 16 = -8$

 $\{6, 4\}$ 

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

 $\{6, 0\}$ 

18)  $4x^2 - 47 = -3x^2 + 2 + 42x$

 $\{-1, 7\}$ 

20)  $3n^2 + 18n + 2 = 2$

 $\{-6, 0\}$ **Solve each equation by taking square roots.**

21)  $3n^2 - 8 = 130$

 $\{6.782, -6.782\}$ 

23)  $16x^2 + 10 = 59$

 $\{1.75, -1.75\}$ 

25)  $10n^2 + 3 = 343$

 $\{5.831, -5.831\}$ 

27)  $6a^2 - 2 = 322$

 $\{7.348, -7.348\}$ 

29)  $6 - 9v^2 = -93$

 $\{3.317, -3.317\}$ 

22)  $4p^2 - 6 = 170$

 $\{6.633, -6.633\}$ 

24)  $2 + 9b^2 = 38$

 $\{2, -2\}$ 

26)  $10x^2 - 7 = 53$

 $\{2.449, -2.449\}$ 

28)  $25x^2 + 6 = 31$

 $\{1, -1\}$ 

30)  $9r^2 + 10 = 325$

 $\{5.916, -5.916\}$