Name: _____

Solving Equations by Factoring

Solve each of the following equations.

1) $y^2 + 19y + 34 = 0$

2) $a^2 + 4a - 21 = 0$

3) $b^2 - 8b - 33 = 0$

4) $s^2 + 2s - 63 = 0$

5) $c^2 + 17c + 72 = 0$

6) $k^2 - 13k = 0$

7) $p^2 = 5p + 24$

8) $r^2 = 18 + 7r$

9) $2x^2 + 13x = 24$

10) $m^2 - 81m = 0$

11) $3y^2 + 16y = 35$

12) $4b^3 - 36b = 0$

13) $r^3 - 6r^2 + 8r = 0$

14) $s^3 + 2s^2 - 35s = 0$

15) $2k^3 + 5k^2 = 42k$

16) $2y^3 - 15y = y^2$

17) $\dfrac{x^2}{12} - \dfrac{2}{3}x - 4 = 0$

18) $x^2 - \dfrac{1}{6}x - \dfrac{35}{6} = 0$

19) $0.03x^2 - x + 3 = 0$

20) $0.3x^2 - 1.06x + 0.2 = 0$

21) $(x + 8)(x + 1) = -12$

22) $(r - 1)(r - 1) = 36$

23) $(y + 4)(3y - 2) = -y - 14$

24) $h^3 + h^2 - 4h - 4 = 0$

25) $y^3 - y^2 - y + 1 = 0$

26) $9a^3 - 18a^2 - a + 2 = 0$

27) $2m^3 + 5m^2 - 18m - 45 = 0$

28) $y^4 - 8y^2 + 16 = 0$

29) $m^4 - 2m^2 + 1 = 0$

30) $xy + 4x - 3y - 12 = 0$

31) $2my + 5m + 8y + 20 = 0$

32) $4pz - z + 12p - 3 = 0$

Use an equation to solve each problem. Disregard any reasonable solutions.

61) The square of a number decreased by 144 is zero. Find the number.

62) The area of a square tabletop is 4 m². Find the length of one side of the tabletop.

63) The square of a number added to 6 times the number is zero. Find the number.

64) The square of a number is equal to 10 times the number decreased by 25. Find the number.

65) A certain number decreased by 7 is multiplied by the same number increased by 7. The product is 51. Find the number.