Solving Equations by Factoring

Solve. Remember to set each equation to zero and write in descending order.

1) $x^2 + 8x + 7 = 0$

2) $t^2 - 2t - 15 = 0$

3) $5x^2 - 15 - 10x = 0$

4) $6y^2 - 2 - y = 0$

5) $9s^2 + 12s = -4$

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

7) $4n^2 = 121$

8) $x^3 - 2x^2 - 8x = 0$

9) $y^4 - 6y^3 + 8y^2 = 0$

10) $x^3 = 3x + 2x^2$

11) $t^4 = 2t^3 + 15t^2$

12) $(x-3)(x+2)(2x-7)(3x-8) = 0$

13) $x(x+6)(x-5)(7x+1) = 0$

14) $5x^2 - 5x = 30$

15) $-3(3x-1)(x-5)(x+4) = 0$

16) $(3m+4)(6m^2 + m - 2) = 0$

17) $r(r-5) = -6$

18) $4b(2b+3) = 36$

19) $3(t^2+4) = 20t$

20) $2x(x+3) = (3x+1)(x+3)$

Answer Key

1) $x = -7, -1$

2) $t = -3, 5$

3) $x = -1, 3$

4) $y = -\frac{1}{2}, \frac{2}{3}$

5) $s = -\frac{2}{3}$

6) $x = -\frac{1}{2}, \frac{4}{3}$

7) $n = \pm\frac{11}{2}$

8) $x = -2, 0, 4$

9) $y = 0, 2, 4$

10) $x = -1, 0, 3$

11) $t = -3, 0, 5$

12) $x = 3, -2, \frac{7}{2}, \frac{8}{3}$

13) $x = -6, 0, 5, -\frac{1}{7}$

14) $x = 3, -2$

15) $x = \frac{1}{3}, 5, -4$

16) $m = -\frac{4}{3}, -\frac{2}{3}, \frac{1}{2}$

17) $r = 2, 3$

18) $b = -3, \frac{3}{2}$

19) $t = \frac{2}{3}, 6$

20) $x = -3, -1$