WS 8.7 #7

$7x^2 + 13x + 6 = 0$

$(7x^2 + 7x)(6x + 6) = 0$

$7x(x+1)6(x+1) = 0$

$7x + 6 = 0$

$\frac{7x}{7} = \frac{-6}{7}$

$x = -\frac{6}{7}$

$x + 1 = 0$

$x = -1$

Answers to Ws 8-7 #3 Solving Equations by Factoring:

1) $7p^2 - 50p - 7 = 0$

$p = 7, \frac{1}{7}$

2. $7a^2 - 41a - 6 = 0$

$a = 6, -\frac{1}{7}$

3. $x = \frac{1}{7}, \frac{7}{3}$

4. $n = -\frac{4}{7}, -2$

5. $x = 2, \frac{2}{3}$

6. $n = -1, \frac{1}{7}$

7. $x = -\frac{6}{7}, -1$

8. $a = -1, \frac{5}{7}$

9. $n = \frac{2}{3}, \frac{1}{7}$

10. $x = -\frac{1}{2}, -2$

11. x= $\frac{4}{5}, -4$

12. v= $\frac{6}{5}, -3$

13. $r = -\frac{2}{7}, -\frac{3}{2}$

14. $a = \frac{3}{2}, -\frac{3}{4}$

15. $p = -2, \frac{2}{3}$

16. $n = \frac{1}{2}, 7$

17. $k = -4, \frac{2}{7}$

18. $k = 2 - \frac{4}{5}$

19. $x = 4, -\frac{5}{2}$

20. $b = 3, \frac{4}{5}$

Difference of Squares

"perfect squares"

$a^2 = a \cdot a$

$7^2 = 7 \cdot 7 = 49$

$4x^2 \rightarrow (2x)^2$

$9y^2 \rightarrow (3y)^2$

$a^2 - b^2$

$(a-b)(a+b)$

$-ab$

$+ab$

0

$n^2 + 0n - 16 = 0$

$n^2 - 16 = 0$

$n^2 - 4^2 = 0$

$(n-4)(n+4) = 0$

8.8

1. $a^2 - 4$

$a^2 - 2^2$

$(a-2)(a+2)$

3. $1 - 49d^2$

$1^2 - (7d)^2$

$(1-7d)(1+7d)$

$1 + 7d - 7d - 49d^2$

$1 - 49d^2$

5. $k^2 + 25$ must be "minus" to factor

Not factorable

7. $t^2 - 81u^2$

$t^2 - (9u)^2$

$(t-9u)(t+9u)$

9. $64m^2 - 9y^2$

$(8m)^2 - (3y)^2$

$(8m-3y)(8m+3y)$

11. $-49r^2 + 4t^2$ } Switch terms so it follows $a^2 - b^2$

$4t^2 - 49r^2$

$(2t)^2 - (7r)^2$

$(2t-7r)(2t+7r)$

13. $20q^2 - 5r^2$ } Needs GCF to be factored out first to result in perfect squares

GCF: 5

$5(4q^2 - r^2)$

$5[(2q)^2 - r^2]$

$5(2q-r)(2q+r)$

15. $16x^2 - 9 = 0$ Equation! Solve factors for x

$(4x)^2 - 3^2 = 0$

$(4x-3)(4x+3) = 0$

$4x - 3 = 0$ $\quad 4x + 3 = 0$

$x = \frac{3}{4}$ $\quad x = -\frac{3}{4}$