

Solving Factored Equations

Section 10.4

Solving Factored Equations

- ⦿ Zero Product Property:
 - > If $x \cdot y = 0$, then $x = 0$ or $y = 0$
- ⦿ Steps:
 - > 1.) Set all of the parts = 0
 - > 4.) Solve for the variable in each part

Examples (cont.)

1.) $(x + 3)(x - 7) = 0$

$$\begin{array}{l|l} x+3=0 & x-7=0 \\ -3 & +7 \\ \hline x=-3 & x=7 \end{array}$$

2.) $(4x + 5)(x - 3) = 0$

$$\begin{array}{l|l} 4x+5=0 & x-3=0 \\ -5 & +3 \\ \hline 4x=-5 & x=3 \\ \frac{4}{4} & \\ \hline x=-\frac{5}{4} & \end{array}$$

Examples (cont)

3.) $(x - 7)^2 = 0$

$$(x-7)(x-7) = 0$$

$$\begin{array}{l|l} x-7=0 & x-7=0 \\ +7 \quad +7 & +7 \quad +7 \\ \hline x=7 & x=7 \end{array}$$

4.) $4(x + 1)(x - 10) = 0$

$$\begin{array}{l|l|l} \cancel{4} \neq 0 & x+1=0 & x-10=0 \\ & +1 \quad -1 & +10 \quad +10 \\ \hline x=-1 & & x=10 \end{array}$$

Examples (cont)

$$5.) (x + 5)(3x + 4)(2x - 7) = 0$$

$$\begin{array}{l} x + 5 = 0 \\ -5 \quad -5 \\ \hline x = -5 \end{array}$$

$$\begin{array}{l} 3x + 4 = 0 \\ -1 \quad -4 \\ \hline 3x = -4 \\ \frac{3}{3} \quad \frac{3}{3} \\ \hline x = -\frac{4}{3} \end{array}$$

$$\begin{array}{l} 2x - 7 = 0 \\ +7 \quad +7 \\ \hline 2x = 7 \\ \frac{2}{2} \quad \frac{2}{2} \\ \hline x = \frac{7}{2} \end{array}$$

Class work

- ◉ Pg 600 # 12-16

- ◉ Home work:

- ◉ Pg 600 # 19-28