

Name

8.4 Solve Polynomial Equations

in Factored Form

Alg I

I can solve polynomial equations

Zero-Product Property: If $ab=0$, $a=0$ and $b=0$

Roots: Solutions of an equation

Ch. 8 Quiz

Example 1

Ch. 7/8 Test

$$\begin{array}{l}
 1) \quad (x-5)(x-1)=0 \\
 x-5=0 \quad | \quad x-1=0 \\
 \underline{+5 \quad +5} \quad | \quad \underline{+1 \quad +1} \\
 x=5 \quad x=1
 \end{array}$$

Example 2

$$\begin{array}{l}
 2) \quad 14m+35n \\
 7(2m+5n)
 \end{array}$$

Example 3/4

$$\begin{array}{l}
 3) \quad a^2+5a=0 \\
 a(a+5)=0 \\
 \textcircled{a=0} \quad | \quad a+5=0 \\
 \quad \quad \quad \underline{-5 \quad -5} \\
 \quad \quad \quad \textcircled{a=-5}
 \end{array}$$

$$\begin{array}{l}
 4) \quad 3s^2-9s=0 \\
 3s(s-3)=0 \\
 3s=0 \quad | \quad s-3=0 \\
 \textcircled{s=0} \quad | \quad \underline{+3 \quad +3} \\
 \quad \quad \quad \textcircled{s=3}
 \end{array}$$

$$\begin{array}{l}
 5) \quad 4x^2=2x \\
 4x^2-2x=0 \\
 2x(2x-1)=0 \\
 2x=0 \quad | \quad 2x-1=0 \\
 \textcircled{x=0} \quad | \quad \underline{+1 \quad +1} \\
 \quad \quad \quad \underline{2x=1} \\
 \quad \quad \quad \underline{2 \quad 2} \\
 \quad \quad \quad \textcircled{x=\frac{1}{2}}
 \end{array}$$

Name

Solve Polynomial Equations in Factored Form

Alg I

I can solve polynomial equations.

Vertical Motion Model: The height of something thrown in the air

$$h = -16t^2 + vt + s$$

h : height v : velocity
 t : time s : initial height

Ch. 8 Quiz

Example 5:

Ch. 7/8 Test

$$6) \quad h = -16t^2 + 12t + 0$$

$$0 = -16t^2 + 12t$$

$$0 = 2t(-8t + 6)$$

$$0 = 2t \quad | \quad 0 = -8t + 6$$

$$\textcircled{t=0} \quad | \quad \begin{array}{r} -6 \quad -6 \\ \hline -6 = -8t \end{array}$$

$$\begin{array}{r} -6 = -8t \\ \hline -8 \quad -8 \end{array}$$

$$\boxed{t = 0.75 \text{ seconds}}$$

* Complete Skills Practice, pg. 520, #