

Algebra 1      8.6

Factor trinomials

Solve quadratic equations by factoring

quadratic

EWE

Factor

Zero product property

activity: speed dating

Factor each polynomial.

1A.  $d^2 + 11d + 24$

~~$\begin{array}{cc} 24 & \\ 8 & 3 \\ & 11 \end{array}$~~   $(x+8)(x+3)$

b.  $x^2 - 7x - 18 = 0$

Factor vs solve

$$\begin{array}{r} \begin{array}{c} -18 \\ \hline -9 \quad 2 \\ \hline -7 \end{array} \end{array} \quad \begin{array}{l} (x-9)(x+2) = 0 \\ \downarrow \qquad \downarrow \\ x-9=0 \quad (x+2)=0 \\ +9 \quad +9 \quad -2 \quad -2 \\ x=9 \quad \quad x=-2 \end{array}$$

0 =

### Guided Practice

3A.  $y^2 + 13y - 48$

$$\begin{array}{r} -48 \\ 16 \times -3 \\ 13 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \ 48 \\ 2 \ 24 \\ -3 \ 16 \\ 4 \ 12 \\ 6 \ 8 \end{array}$$

$$(y + 16)(y - 3)$$

=  
0

$$3B. r^2 - 2r - 24 = 0$$

$$\begin{array}{c} \begin{array}{cc} -24 & \\ -6 & 4 \\ \hline -2 & \end{array} \\ \end{array} \quad (r-6)(r+4) = 0$$

$\downarrow \qquad \qquad \downarrow$

$$\begin{array}{cc} r-6=0 & r+4=0 \\ +6 \quad +6 & -4 \quad -4 \end{array}$$

- 1 24
- 2 12
- 3 8
- 4 6

$$r = 6 \qquad r = -4$$

=  
0

Solve the problem that you have been given.  
Show ALL your work on a separate piece of paper.  
Check answers with me.  
You are the expert on this problem.  
Wait for instructions.

WB 8.6 1-29 odds

Quiz Wed. 8.5-8.6

Speed dating...

Remember, you are the expert on your problem!