

TH-A2 Algebra 2 Week 23

Factor

2 answers signs different

$$x^2 - 6x - 27 = 0$$

$$\frac{-9}{-9} * \frac{3}{3} = -27$$

$$\frac{-9}{-9} + \frac{3}{3} = -6$$

Bigger number is negative

$$\begin{array}{r} 27 \\ 3 \cdot 9 \\ 1 \cdot 27 \end{array}$$

$$(x-9)(x+3) = 0$$

$$\begin{array}{l} x-9=0 \\ +9 \quad +9 \end{array}$$

$$\begin{array}{l} x+3=0 \\ -3 \quad -3 \end{array}$$

$$\boxed{x=9 \quad x=-3}$$

perfect squares

Difference of Square

$$x^2 - 36 = 0$$

$$(x+6)(x-6) = 0$$

$$(x+6)(x-6) = 0$$

$$\begin{array}{l} x+6=0 \\ -6 \quad -6 \end{array}$$

$$\begin{array}{l} x-6=0 \\ +6 \quad +6 \end{array}$$

$$\boxed{x=-6 \quad x=6}$$

$$x^2 + 15x + 36 = 0$$

$$\frac{12}{12} * \frac{3}{3} = 36$$

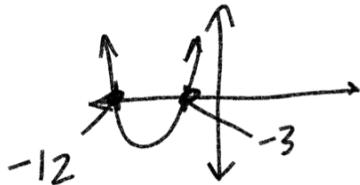
$$\frac{12}{12} + \frac{3}{3} = 15$$

$$(x+3)(x+12) = 0$$

$$\begin{array}{l} x+3=0 \\ -3 \quad -3 \end{array}$$

$$\begin{array}{l} x+12=0 \\ -12 \quad -12 \end{array}$$

$$\boxed{x=-3 \quad x=-12}$$



$$\frac{4x^2}{4} + \frac{16x}{4} - \frac{84}{4} = 0$$

$$4(x^2 + 4x - 21) = 0$$

$$\frac{7}{1} * \frac{-3}{1} = -21$$

$$\frac{7}{1} + \frac{-3}{1} = 4$$

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

$$\downarrow \qquad \qquad \downarrow$$

$$x+7=0 \qquad x-3=0$$

$$\begin{array}{cc} -7 & -7 \\ +3 & +3 \end{array}$$

$x = -7 \qquad x = 3$

$$2x^2 - 3x - 20 = 0$$

FOILing

	2x	-2
x	2x ²	-2x
+10	-20x	-20

$$20x - 2x = 18x$$

$\frac{2}{2 * 1}$

$$\frac{20}{4 * 5}$$
~~$$\frac{3 * 10}{1 * 20}$$~~

FOILing

	2x	+2
x	2x ²	+2x
-10	-20	-20

$$-18x$$

	2x	-10
x	2x ²	-10x
+2	4x	-20

$$-10x + 4x = -6x$$

	2x	+10
x	2x ²	
-2		-20

	$2x$	-4
x	$2x^2$	$-4x$
$+5$	$-10x$	-20

$$10x - 4x = 6x$$

	$2x$	-5
x	$2x^2$	$-5x$
$+4$	$-8x$	-20

$$8x - 5x = 3x$$

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

$$x-4=0$$

$$+4 \quad +4$$

$$\boxed{x=4}$$

$$2x+5=0$$

$$-5 \quad -5$$

$$\frac{2x}{2} = \frac{-5}{2}$$

$$\boxed{x = -\frac{5}{2}}$$

	$2x$	$+5$
x	$2x^2$	$5x$
-4	$-8x$	-20

$$-8x + 5x = -3x$$

⊖ signs are different

$$3x^2 + 10x - 48$$

$$\frac{3}{3 \cdot 1}$$

$$\frac{48}{2 \cdot 24} \text{ (4)}$$

$$4 \cdot 12 \text{ (2)}$$

$$3 \cdot 16 \text{ (3)}$$

$$6 \cdot 8 \text{ (1)}$$

$$1 \cdot 48 \text{ (5)}$$

	$3x$	$+6$
x	$3x^2$	$6x$
-8	$-24x$	-48

$$-24x + 6x = -18x$$

	$3x$	$+8$
x	$3x^2$	$8x$
-6	$-18x$	-48

$$-18x + 8x = -10x$$

	$3x$	-8
x	$3x^2$	$-8x$
$+6$	$-18x$	-48

$$18x - 8x = 10x$$

$$(x+6)(3x-8) = 0$$

$$x+6=0$$

$$-6 \quad -6$$

$$\boxed{x=-6}$$

$$3x-8=0$$

$$+8 \quad +8$$

$$\frac{3x}{3} = \frac{8}{3}$$

$$\boxed{x = \frac{8}{3}}$$

$$5x^2 + 42x - 27 = 0$$

$$\frac{5}{5 \cdot 1} \quad \frac{27}{1 \cdot 27}$$

$$9 \cdot 3$$

	$5x$	-9
x	$5x^2$	$-9x$
3	$-15x$	-27

$$15x - 9x = 6x$$

	$5x$	-3
x	$5x^2$	$-3x$
$+9$	$45x$	-27

$$45x - 3x = 42x$$

$$(5x - 3)(x + 9) = 0$$

$$5x - 3 = 0$$

$$+3 \quad +3$$

$$\frac{5x}{5} = \frac{3}{5}$$

$$x = \frac{3}{5}$$

$$x + 9 = 0$$

$$-9 \quad -9$$

$$x = -9$$

HW
 Ch 5.5 evens
 Supplemental WS
 Online HW 23 } March 25th
 Quiz 23 }
 HW/Quiz 22
 due tonight!

