

Algebra 2 4.3

Write quadratic equations in standard form

Solve quadratic equations by factoring*

binomial

trinomial

polynomial

~~✓~~ distributive property

EWE

FOIL method (boo) *x-factor*

~~✓~~ factor by grouping

zero product property $(\quad) \cdot (\quad) = 0$

triangle puzzle

whiteboards

*Algebra 1 Ch. 8

$$\text{b. } 6y^2 - 23y + 20 = 0$$

$$\left(\frac{6y^2}{3} - \frac{8y}{3}\right) + \left(\frac{-15y}{3} + \frac{20}{-5}\right) = 0$$

$$2y(3y - 4) - 5(3y - 4) = 0$$

$$(3y - 4)(2y - 5) = 0$$

$$\begin{array}{r} 3y - 4 = 0 \\ +4 \quad +4 \\ \hline 3y = 4 \end{array}$$

$$y = \frac{4}{3}$$

$$\begin{array}{r} 2y - 5 = 0 \\ 2y = 5 \end{array}$$

$$y = \frac{5}{2}$$

	+ 120
	1 120
	2 60
	3 40
	4 30
	5 24
	6 20
	8 15
	10 12

$$-8y + -15y$$

4C. $15x^2 - 8x + 1 = 0$

4D. $-12x^2 + 8x + 15 = 0$

$$\left(\frac{-12x^2}{-2x} - \frac{10x}{-2x} \right) + \left(\frac{18x}{3} + \frac{15}{3} \right) = 0$$

$$-2x(6x+5) + 3(6x+5) = 0$$

$$(6x+5)(-2x+3) = 0$$

$$\begin{aligned} \downarrow \\ 6x+5 &= 0 \\ 6x &= -5 \\ x &= -\frac{5}{6} \end{aligned}$$

$$\begin{aligned} \downarrow \\ -2x+3 &= 0 \\ -2x &= -3 \\ x &= \frac{3}{2} \end{aligned}$$

$$\begin{aligned} &18x + -10x \\ * &-10x + 18x \end{aligned}$$

	<u>-180</u>
1	180
2	90
3	60
4	45
5	36
6	30
9	20
	<u>-10 + 18</u>
	12 15

$$32. \frac{8x^2z^2}{4z^2} - \frac{4xz^2}{4z^2} - \frac{12z^2}{4z^2}$$

$$33. 9x^2 - 25$$

$$9x^2 - 25$$

$$4z^2(2x^2 - x - 3)$$

$$\frac{-b}{16}$$

$$4z^2 \left(\frac{2x^2 + 2x}{2x} \left(\frac{-3x - 3}{-3} \right) \right)$$

$$+2-3$$

$$4z^2(2x(x+1) - 3(x+1))$$

$$4z^2(x+1)(2x-3)$$

$$(3x+5)(3x-5)$$

Defference of Squares

$$a^2 - b^2 = (a - b)(a + b)$$

Perfect square trinomial

$$4x^2 + 12x + 9 = (2x + 3)^2$$

*

Sum of 2 cubes

$$\underline{a^3 + b^3} = (a + b)(a^2 - ab + b^2)$$

*

Difference of 2 cubes

$$= (x + 3)(x^2 - 3x + 9)$$

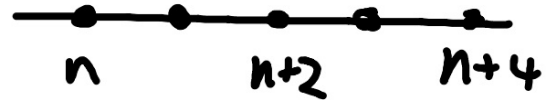
$$\underline{a^3 - b^3} = (a - b)(a^2 + ab + b^2)$$

$$n^3 - 125 = (n - 5)(n^2 + 5n + 25)$$

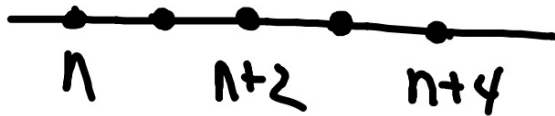


Two consecutive integers...

Two consecutive even integers...

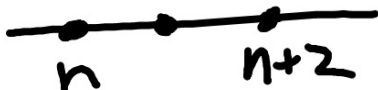


Two consecutive odd integers...



1 728

2 364



3 What are the numbers? (Guess and check does not count...)

4 182

Two consecutive even integers have a product of 728.

8 91

$$n(n+2) = 728$$

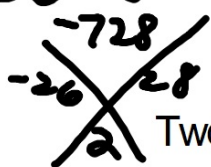
14 52

$$n = -28$$
$$(-28)x = 728$$
$$n = -26$$

$$n = 26$$
$$n = 28$$

26 28

$$n^2 + 2n - 728 = 0$$
$$(n+28)(n-26) = 0$$



Two consecutive integers have a product of 240.

$$n(n+1) = 240$$

$$n^2 + n - 240 = 0$$

Two consecutive odd integers have a product of 255.

$$n(n+2) = 255$$

~~$$(n+1)(n+1)$$~~

triangle puzzle

