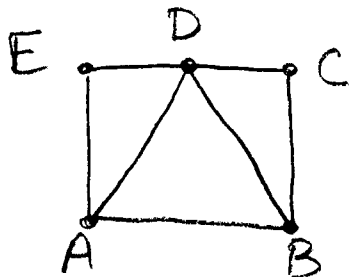


2009
Sample
ACT

① Simplify $(4z+3)(z-2)$

- ② In square ABCE shown below, D is the midpoint of $\overline{EC}$. Which of the following is the ratio of the area of $\triangle ADE$ to the area of $\triangle ADB$?



- Ⓐ 1:1 Ⓑ 1:2 Ⓒ 1:3 Ⓓ 1:4 Ⓔ 1:8

Ans:

① $(4z+3)(z-2)$

$$\begin{array}{r} 4z^2 - 8z \\ + 3z - 6 \\ \hline \end{array}$$

$$4z^2 - 5z - 6$$

$$\frac{\text{Area ADE}}{\text{Area ADB}} = \frac{\frac{1}{4}(\overline{AB})(\overline{EA})}{\frac{1}{2}(\overline{AB})(\overline{EA})}$$

$$\frac{\frac{1}{4}}{\frac{1}{2}} = \frac{1}{4} \cdot \frac{2}{1} = \frac{2}{4} = \frac{1}{2}$$

or 1:2

• Homework Review: Pg 242 # 21-27

- ②① $(x+1)(x+6)$ ②② $(y-1)(y-4)$ ②③ $(2a+1)(a+1)$ ②④ $(2b-1)(b+7)$ ②⑤ $(2c+3)(3c+2)$ ②⑥ $(3m+2)(4m-3)$ ②⑦ $3(N+8)(N-1)$

LOOK
GCF
FIRST!

Extra Practice: GCF & FBG

Factor $\Rightarrow$ GCF or FBG, if NOT factorable,
write "prime polynomial"

① $14x^2y^2 + 42xy^3$

② $35x^3y^4 - 60x^4y$

③ $3st^2 - 9s^3t + 6s^2t^2$

④ $2aby^2 + 3cx^3d^2 + 8adx$

• Homework review: Pg. 24/2 #4, 5, 6, 15-20

Answers: ④ $-6x(2x+1)$ ✱ ⑤ $a(a+5+b)$

✱ ⑥ $(x+7)(3-y)$ ✱ ⑮ $2x(y^3-5)$

⑮ $6ab^2(a+3b)$ ⑰ $2cd^2(6d-4c+5c^4d)$

⑱ PRIME ⑲ $(2z-3)(4y-3)$

⑳ $(3a+1)(x-5)$

1.
Trinomials can be factorable or prime.

They can also be perfect squares - which means they have two equal factors.

How can you recognize a perfect square trinomial? If you can recognize it, you can factor it without even needing the magic number method!

A Perfect Square Trinomial^{PST} will be one of these forms:

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

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

3 quick checks, in order, to see if you have a PST, if any step fails, stop checking!

EX) $x^2 + 6x + 9$

① IS x^2 A perfect square, yes $\sqrt{x^2} = x$, go on

② IS 9 A perfect square, yes $\sqrt{9} = 3$, go on

③ IS $6x = 2 \cdot \frac{x}{1} \cdot \frac{3}{2} = 6x$, yes, WRITE FACTORS

$$(x+3)(x+3) \text{ or } (x+3)^2$$

Check to see if Perfect Square Trinomials,
if so, write factors:

① $16x^2 + 24x + 9$

$(4x + 3)^2$

② $7x^2 + 14x + 49$

↓ NO, STOP CHECKING

③ $25x^2 - 10x + 1$

$(5x - 1)^2$

④ $9x^2 + 6x - 1$

↑
CANT BE, DONT START CHECK
A PST.