BE-1B TUESDAY 2-5-08

1. Factor $16x^2 - 16$

2. Factor $4k^2 - 25$

3. Solve $6d^2 = d + 1$

AHSGE WB

1. Pg 34 #1
2. Pg 34 #2
3. Pg 39 # 8

Compare:

when $x=0$, b is $=$ to y, it is the y intercept

$$\boxed{y = mx + b}$$ LINEAR $\Rightarrow x^1$

or $y = ax + b$

$\uparrow$

SLOPE $= \frac{\text{rise}}{\text{run}}$

$+ \nearrow$ or $- \searrow$

ex) $y = 2x + 4$

$$\boxed{y = ax^2 + bx + c}$$ QUADRATIC $\Rightarrow x^2$

$a+ \cup$

$a- \cap$

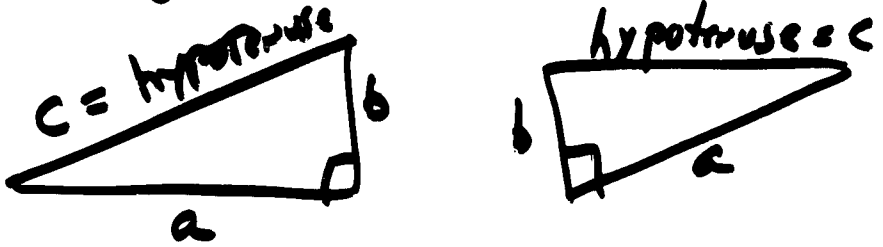
AOS $\Rightarrow x = \frac{-b}{2a}$

when $x = 0$, c is the y intercept

ex) $y = 2x^2 - 4x - 6$

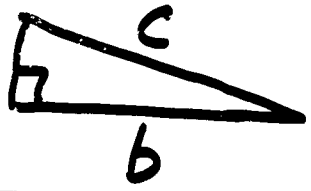
Right triangle A triangle with one angle equal to 90°

hypotenuse the side opposite the 90° angle in a right triangle.



It is <u>always</u> the longest side in a RT. Usually labeled "c", lowercase.

legs the other 2 sides in a RT. Usually labeled a, b. It does not matter which is a or b. The hypotenuse is always c.

In any RT, 

$$c^2 = a^2 + b^2$$

Pythagorean Theorem

the square of the hypotenuse = the sum of the squares of the other two sides.

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* If you know any 2 sides in a RT, you can use the PT to find the length of the 3rd side.

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* $c^2 = a^2 + b^2$ * "normal" formula

$c = \sqrt{a^2 + b^2}$

or

$a^2 = c^2 - b^2$ | or | $b^2 = c^2 - a^2$

$a = \sqrt{c^2 - b^2}$ | | $b = \sqrt{c^2 - a^2}$

Ch 11-4 The Pythagorean Theorem

Ex 1 Pg 605 Find the hyponenuse if $a = 8$ and $b = 15$

$$c^2 = a^2 + b^2$$

$$c^2 = (8)^2 + (15)^2$$

$$c^2 = 64 + 225$$

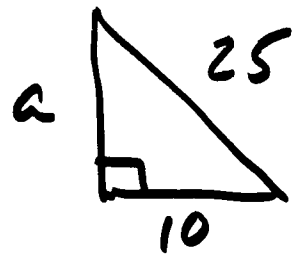
$$c^2 = 289$$

$$c = \sqrt{289}$$

$c = \pm 17$ however, length $\neq$ negative

$\boxed{c = 17}$ units

Ex 2 Pg 606 Find the length of the missing side



$$c^2 = a^2 + b^2$$
$$-b^2 \qquad -b^2$$
$$c^2 - b^2 = a^2$$
$$(25)^2 - (10)^2 = (a)^2$$
$$625 - 100 = a^2$$
$$\sqrt{525} = a$$
$$\boxed{22.91 = a}$$

To nearest hundredth.

Ex 4 Pg 607 Are these RT^{is}?

(A) 20, 21, 29

$29^2 \stackrel{?}{=} 20^2 + 21^2$

$841 \stackrel{?}{=} 400 + 441$ ✓ Yes

(b) 8, 10, 12

$12^2 \stackrel{?}{=} 8^2 + 10^2$

$144 \stackrel{?}{=} 64 + 100$ NO

Pg. 608 # 13-16

19-20

31-32

Summary?