

## Starter

1. What is the Pythagorean Theorem?

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

2. When is the Pythagorean Theorem used?

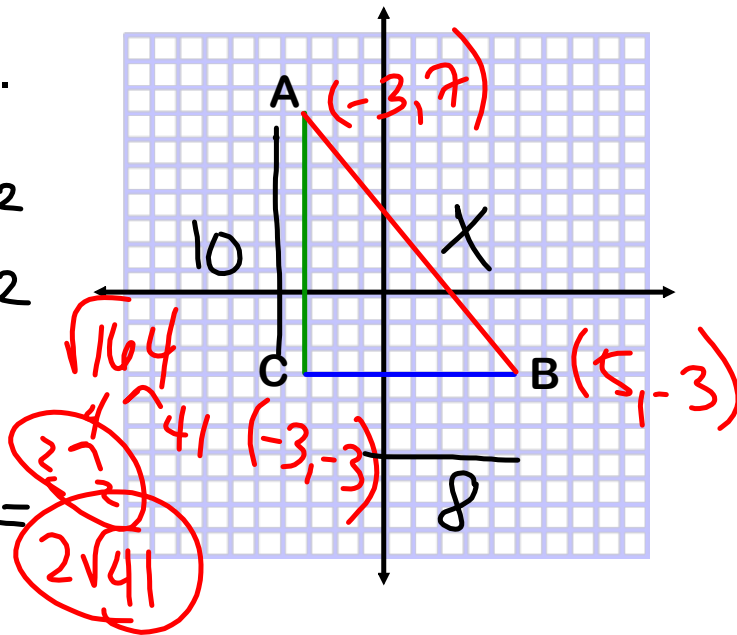
3. Find AB.

$$10^2 + 8^2 = c^2$$

$$100 + 64 = c^2$$

$$\sqrt{164} = c$$

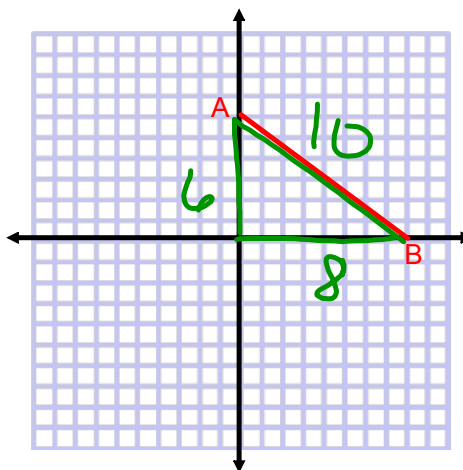
$$12.8 = c =$$



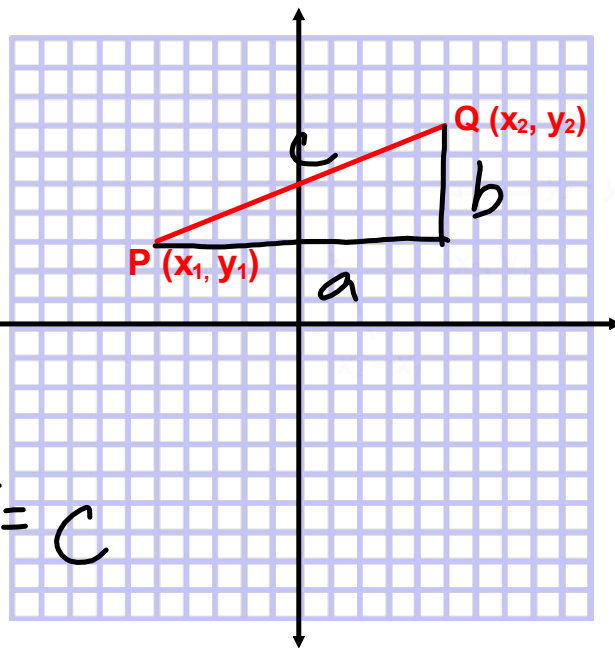
## The Distance Formula

- When a segment is horizontal or vertical, its length is *easily* computed.
- To compute any non-horizontal or non-vertical length, draw a right triangle and apply the Pythagorean Theorem.

$$6^2 + 8^2 = c^2$$
$$36 + 64 = c^2$$
$$\sqrt{100} = c$$



To find the length of PQ,  
apply the Pythagorean  
Theorem.



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

$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} = c$$

$$\sqrt{2^2 + 4^2} \neq 2 + 4$$

$$\sqrt{(2+4)^2} = 2 + 4$$

$$\sqrt{(2+4)(2+4)}$$

$$(2+4)^2 = 2^2 + 4^2$$

$$36 \neq 20$$



## Examples

1. If  $A = (2, 3)$  and  $B = (7, 15)$ , find  $AB$ .

$$\sqrt{(7-2)^2 + (15-3)^2} = \sqrt{169}$$

2. If  $D = (7, 1)$ ,  $E = (9, 5)$ , and  $F = (6, 4)$ ,  
find the length of the median  
from  $F$  to  $DE$ .

$$\sqrt{(2-7)^2 + (3-15)^2}$$

↓  
13

## Partner Problems: 16.3 worksheet

HW: p. 394 #2 † 4, 15 †, 18;  
~~p. 608 #15, 17, 24~~

#10 Chris Hatfield



**Chris Hatfield**  
@\_ChrisHatfield



Josh-Harvey Clemons to Louisville is first real 'Petrino is here' moment. That can be good, that can be bad. You decide.

8:20 AM - 10 Apr 2014

4 RETWEETS 2 FAVORITES



Just gonna leave this one here.

#8 Dylan Metcalfe



Dylan Metcalfe  
@DWMetcalfe

Follow

It is now my least favorite season of the year...it's called "Waiting for Kentucky Basketball" season. #BBN

8:27 PM - 10 Apr 2014

3 FAVORITES



Seriously... SO BORED



#6 Aaron Harrison



**Sandra Santana™** @easyyy\_e

23h

@AaronICE2 □□□□ you said this foreal? [pic.twitter.com/qe8QQfKXw6](http://pic.twitter.com/qe8QQfKXw6)



**Aaron Harrison**

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@AaronICE2

“@easyyy\_e: @AaronICE2 □□□□ you said this foreal? [pic.twitter.com/TPS8VwIt7N](http://pic.twitter.com/TPS8VwIt7N)” lol i don't remember

10:50 AM - 10 Apr 2014

Career highlights and awards

- McDonald's All-American (2013)

**Aaron Harrison** (born October 28, 1994) is an American college basketball legend for the University of Kentucky. It has been said he has ice in his veins and no regard for human emotions. Harrison has broken the hearts of many college basketball players and continues to do so on a nightly basis. When asked what pressure was Harrison simply looked confused and proceeded to hit another game winning shot. He was considered one of the top recruits for 2014. His twin brother Andrew Harrison was ranked higher than him.<sup>[1][2][3]</sup>

Harrison played in both the 2013 Jordan Brand Classic, and the 2013 McDonald's All-American Boys Game.<sup>[4][5]</sup>

High school career



170 RETWEETS 298 FAVORITES



Isn't Wikipedia fun?

#5 Jon Hood



Jon Hood  
@jonnylightning4

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#BBN Come Hangout w/ Me @RyanCoxx & @s\_amalia Saturday Night at @GrandReserveLex! Tickets - [flavorus.com/BBN](http://flavorus.com/BBN)

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13 RETWEETS 14 FAVORITES



This looks suspiciously like a UofL event gang... Be wary.

#4 Riley Fitzpatrick



Riley Fitzpatrick

@rileyfitz22

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Throwback Thursday I'm glad y'all chose Kentucky @DrewRoc5 @AaronICE2 #bbn

9:37 PM - 10 Apr 2014

1 RETWEET 15 FAVORITES



October 5, 2012. What a day.

