

10:01 | Distance Between Points

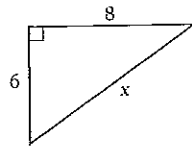
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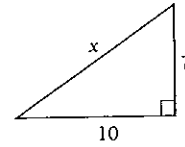
Examples

1 Use Pythagoras' theorem to find the length of the hypotenuse.

a $x^2 = 6^2 + 8^2$
 $= 36 + 64 = 100$
 $x = \sqrt{100}$
 $= 10$

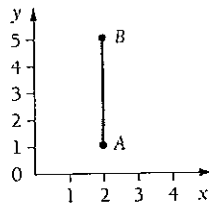


b $x^2 = 7^2 + 10^2$
 $= 49 + 100$
 $= 149$
 $x = \sqrt{149}$

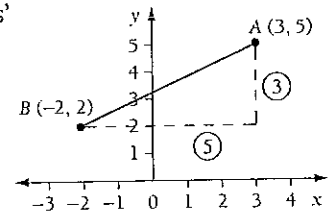


2 Find the length of AB.

a Count straight down from B to A, ie from 5 to 1.
 Length AB = 4

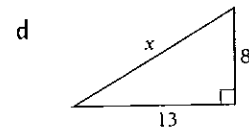
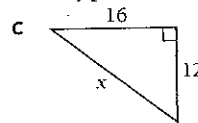
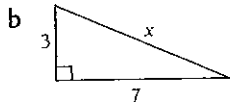
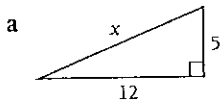


b Use Pythagoras' theorem.
 $AB^2 = 3^2 + 5^2$
 $= 34$
 $AB = \sqrt{34}$

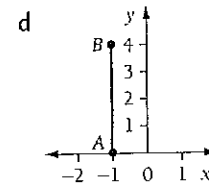
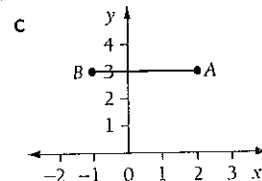
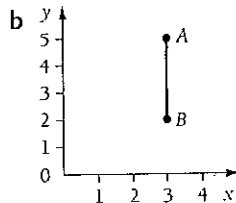
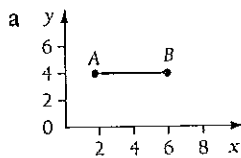


Exercise

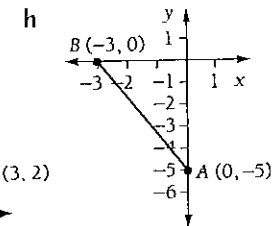
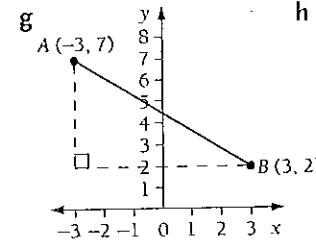
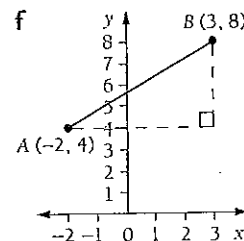
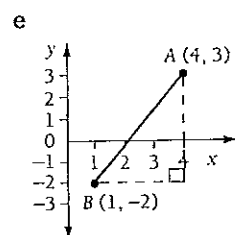
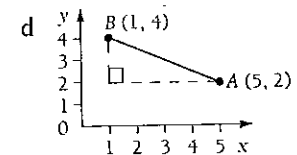
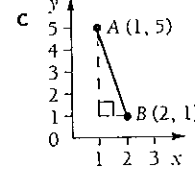
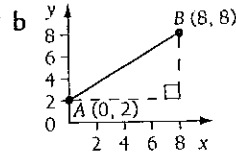
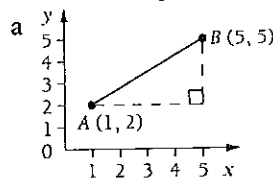
1 Use Pythagoras' theorem to find the length of the hypotenuse, x.



2 Find the distance AB in each of the following.



3 Find the length of AB in each of the following.



10:01 Distance Between Points

1 a $x=13$ b $x=\sqrt{58}$ c $x=20$ d $x=\sqrt{233}$

2 a 4 b 3 c 3 d 4

3 a 5 b 10 c $\sqrt{17}$ d $\sqrt{20}$ e $\sqrt{34}$ f $\sqrt{41}$ g $\sqrt{61}$ h $\sqrt{34}$