Kuta Software - Infinite Geometry

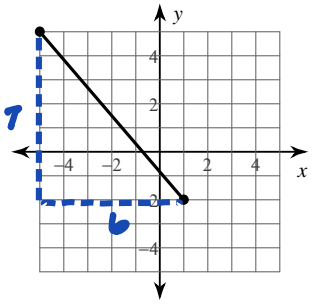
Name Key

The Distance Formula

Date_____ Period____

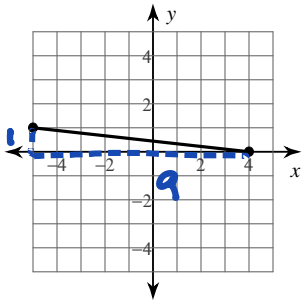
Find the distance between each pair of points. Round your answer to the nearest tenth, if necessary.

1)



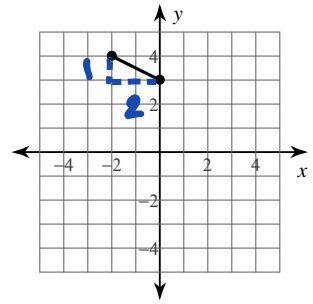
$a^2+b^2=c^2$
$7^2+6^2=c^2$
$49+36=c^2$
$85=c^2$
$\sqrt{85}=c$
$c=9.2$

2)



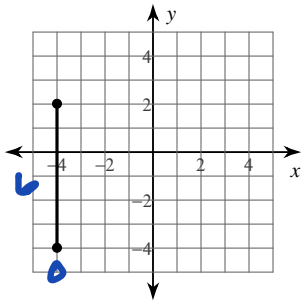
$a^2+b^2=c^2$
$1^2+9^2=c^2$
$1+81=c^2$
$82=c^2$
$\sqrt{82}=c$
$c=9.1$

3)



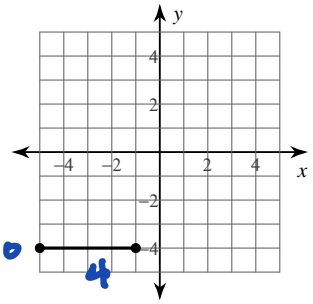
$a^2+b^2=c^2$
$1^2+2^2=c^2$
$1+4=c^2$
$5=c^2$
$\sqrt{5}=c$
$c=2.2$

4)



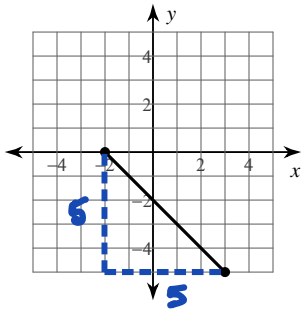
$a^2+b^2=c^2$
$0^2+6^2=c^2$
$36=c^2$
$\sqrt{36}=c$
$c=6$

5)



$a^2+b^2=c^2$
$4^2+0^2=c^2$
$16=c^2$
$\sqrt{16}=c$
$c=4$

6)



$a^2+b^2=c^2$
$5^2+5^2=c^2$
$25+25=c^2$
$50=c^2$
$\sqrt{50}=c$
$c=7.1$

7) $(-2, 3)$, $(-7, -7)$

$+5$ $-2, 3$ $+10$

$5^2+10^2=c^2$
$25+100=c^2$
$125=c^2$
$11.2=c$

8) $(2, -9)$, $(-1, 4)$

$\frac{-9-4}{2--1}=-\frac{13}{3}$

$3^2+(-13)^2=c^2$
$9+169=c^2$
$178=c^2$
$13.3=c$

9) $(5, 9)$, $(-7, -7)$

$+12$ $5, 9$ $+16$

$12^2+16^2=c^2$
$144+256=c^2$
$400=c^2$
$20=c$

10) $(8, 5)$, $(-1, 3)$

$\frac{5-3}{8--1}=\frac{2}{9}$

$9^2+2^2=c^2$
$81+4=c^2$
$85=c^2$
$9.2=c$

11) $(-10, -7)$, $(-8, 1)$

-2 $-10, -7$ -8

$(-2)^2+(-8)^2=c^2$
$4+64=c^2$
$68=c^2$
$8.2=c$

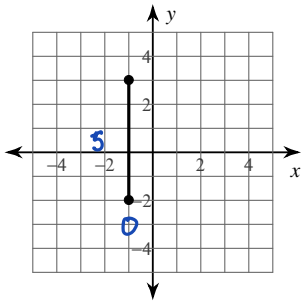
12) $(-6, -10)$, $(-2, -10)$

$\frac{-10--10}{-6--2}=\frac{0}{-4}$

$(-4)^2+0^2=c^2$
$16+0=c^2$
$16=c^2$
$4=c$

Find the distance between each pair of points. Give exact distances, write answers in radical form.

13)



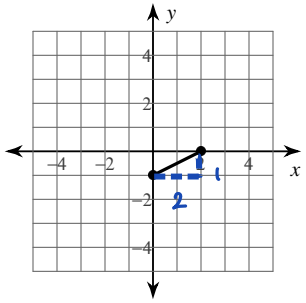
$a^2+b^2=c^2$

$0^2+5^2=c^2$

$25=c^2$

$5=c$

14)



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

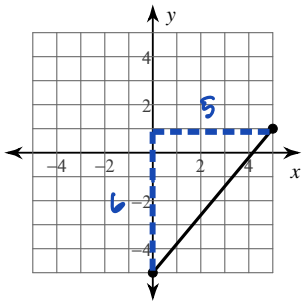
$2^2+1^2=c^2$

$4+1=c^2$

$5=c^2$

$\sqrt{5}=c$

15)



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

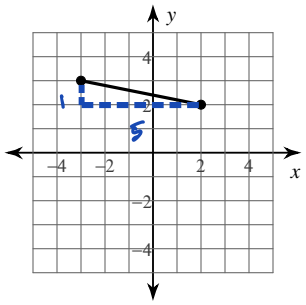
$5^2+6^2=c^2$

$25+36=c^2$

$61=c^2$

$\sqrt{61}=c$

16)



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

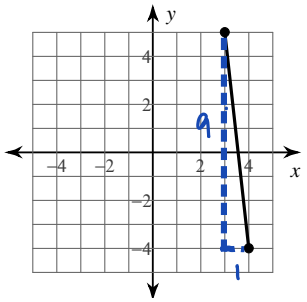
$5^2+1^2=c^2$

$25+1=c^2$

$26=c^2$

$\sqrt{26}=c$

17)



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

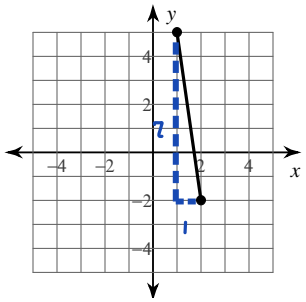
$1^2+9^2=c^2$

$1+81=c^2$

$82=c^2$

$\sqrt{82}=c$

18)



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

$1^2+7^2=c^2$

$1+49=c^2$

$50=c^2$

$\sqrt{50}=c$

$5\sqrt{2}=c$

19) $(0, -2)$, $(-5, -1)$

$+5$, -2 to -1

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

$5^2+(-1)^2=c^2$

$25+1=c^2$

$26=c^2$

$\sqrt{26}=c$

20) $(6, 4)$, $(-5, -1)$

$\frac{4--1}{6--5}=\frac{5}{11}$

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

$11^2+5^2=c^2$

$121+25=c^2$

$146=c^2$

$\sqrt{146}=c$

21) $(3, 8)$, $(9, 10)$

-6, $(3,8)$ to -2

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

$(-6)^2+(-2)^2=c^2$

$36+4=c^2$

$40=c^2$

$\sqrt{40}=\sqrt{c^2}$

$2\sqrt{10}=c$

22) $(10, 1)$, $(9, -4)$

$\frac{1--4}{10-9}=\frac{5}{1}$

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

$1^2+5^2=c^2$

$1+25=c^2$

$26=c^2$

$\sqrt{26}=c$