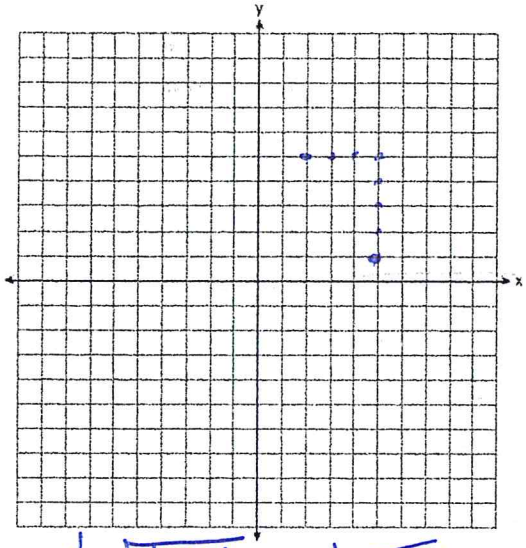
Name Schlansky $d=\sqrt{\Delta x^2+\Delta y^2}$ Date _____

Mr. Schlansky Geometry

Calculating Distance

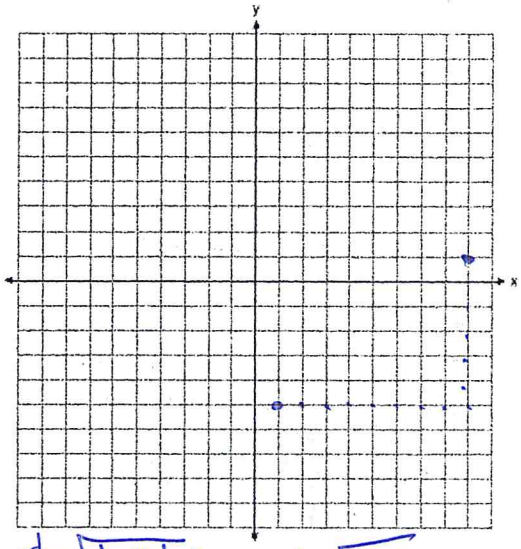
Calculate the distance between the following sets of points. Express in simplest radical form

1. (5,1) and (2,5)



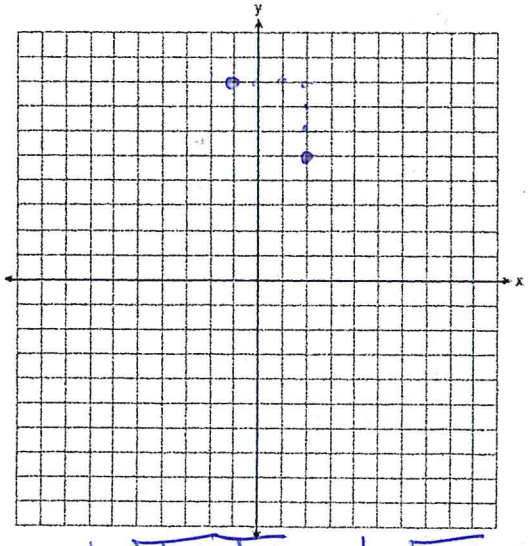
$d=\sqrt{\Delta x^2+\Delta y^2}$
$d=\sqrt{3^2+4^2}$
$d=\sqrt{9+16}$
$d=\sqrt{25}$
$d=5$

2. (9,1) and (1,-5)



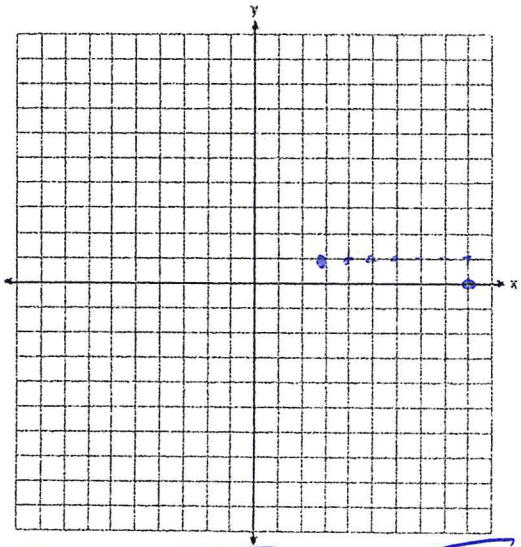
$d=\sqrt{\Delta x^2+\Delta y^2}$
$d=\sqrt{8^2+6^2}$
$d=\sqrt{64+36}$
$d=\sqrt{100}$
$d=10$

3. (2,5) and (-1,8)



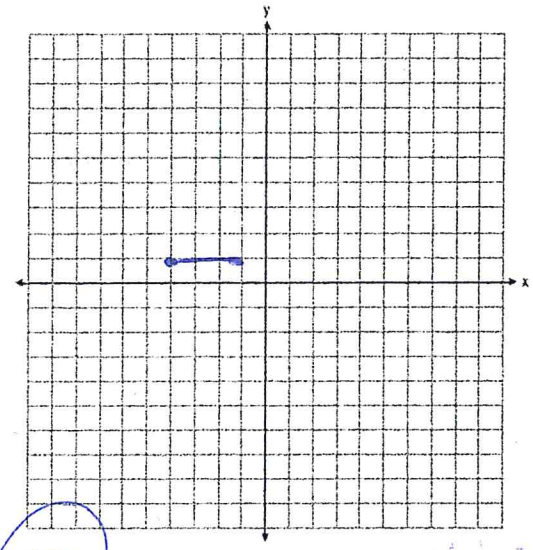
$d=\sqrt{\Delta x^2+\Delta y^2}$
$d=\sqrt{3^2+3^2}$
$d=\sqrt{9+9}$
$d=\sqrt{18}$
$\sqrt{9}\sqrt{2}$
$3\sqrt{2}$

4. (3,1) and (9,0)



$d=\sqrt{\Delta x^2+\Delta y^2}$
$d=\sqrt{6^2+1^2}$
$d=\sqrt{36+1}$
$d=\sqrt{37}$

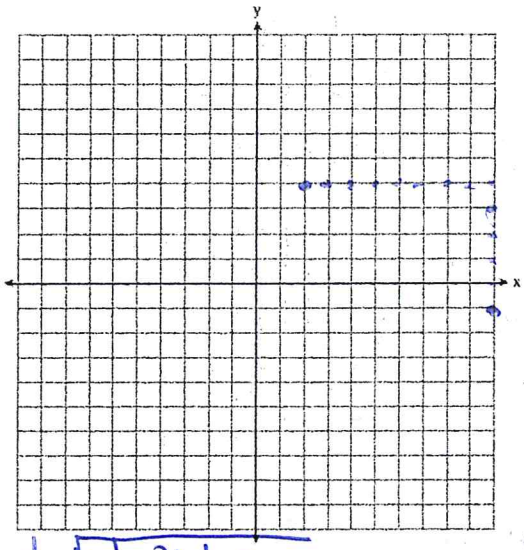
5. (-4,1) and (-1, 1)



3

If it is a straight line you can just count without doing distance formula.

6. (10,-1) and (2, 4)



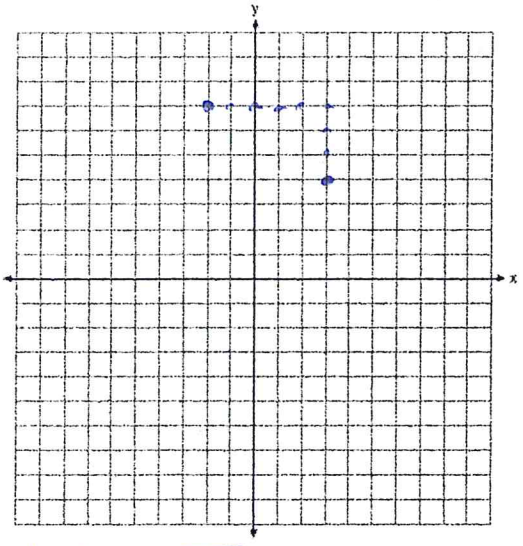
$d=\sqrt{\Delta x^2+\Delta y^2}$

$d=\sqrt{8^2+5^2}$

$d=\sqrt{64+25}$

$d=\sqrt{89}$

7. (-2,7) and (3, 4)



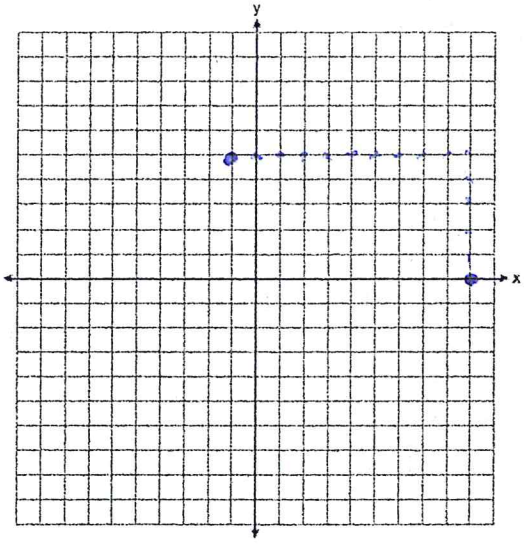
$d=\sqrt{\Delta x^2+\Delta y^2}$

$d=\sqrt{5^2+3^2}$

$d=\sqrt{25+9}$

$d=\sqrt{34}$

8. (9,0) and (-1, 5)



$d=\sqrt{\Delta x^2+\Delta y^2}$

$d=\sqrt{10^2+5^2}$

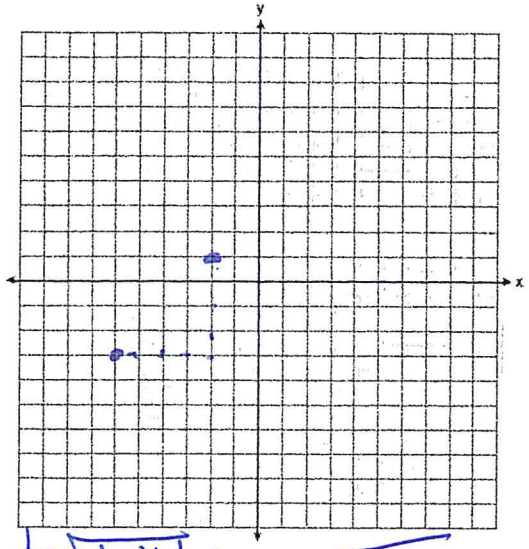
$d=\sqrt{100+25}$

$d=\sqrt{125}$

$\sqrt{25}\sqrt{5}$

$d=5\sqrt{5}$

9. (-6,-3) and (-2, 1)



$d=\sqrt{\Delta x^2+\Delta y^2}$

$d=\sqrt{4^2+4^2}$

$d=\sqrt{16+16}$

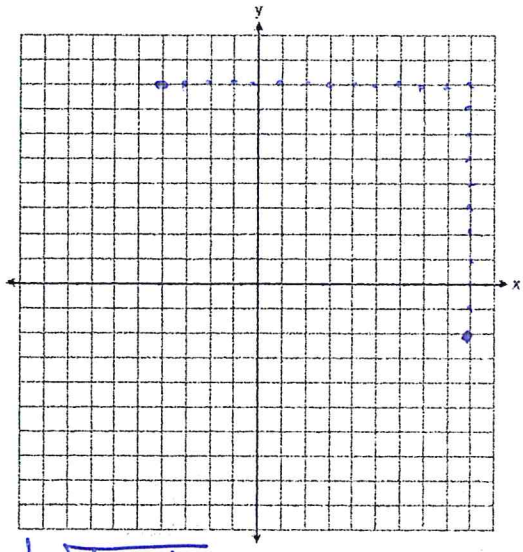
$d=\sqrt{32}$

$\sqrt{32}$

$\sqrt{16}\ \sqrt{2}$

$d=4\sqrt{2}$

10. (9,-2) and (-4, 8)



$d=\sqrt{\Delta x^2+\Delta y^2}$

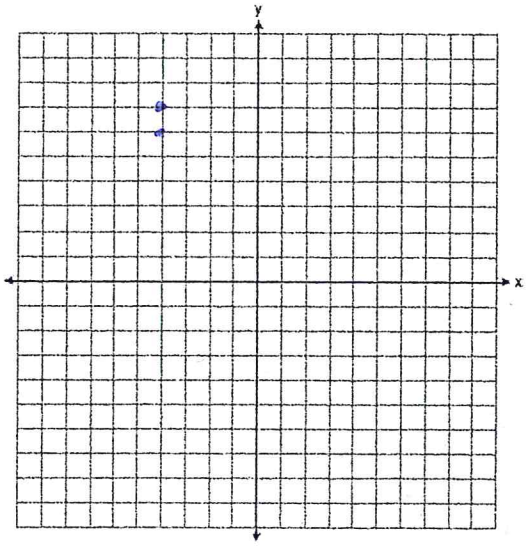
$d=\sqrt{13^2+10^2}$

$d=\sqrt{169+100}$

$d=\sqrt{269}$

big #s, subtract

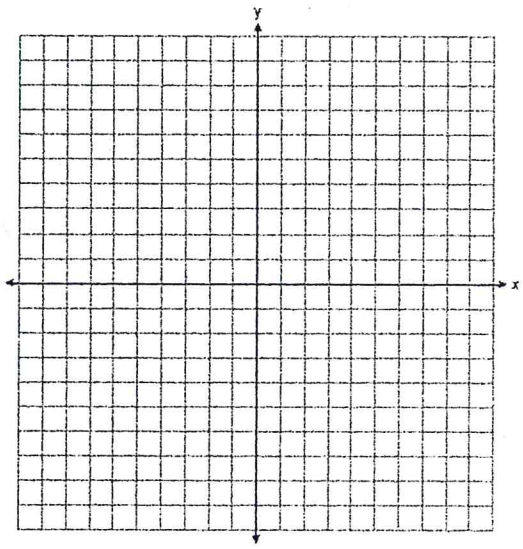
11. (-4,7) and (-4, 6)



$d=1$

You don't have to use distance formula if it is a straight line.

12. (-13,6) and (47, 2)



$d=\sqrt{\Delta x^2+\Delta y^2}$

$\Delta x=47-{-13}=60$

$\Delta y=2-6=-4$

$d=\sqrt{60^2+(-4)^2}$

$d=\sqrt{3600+16}$

$d=\sqrt{3616}$

$\sqrt{16}\ \sqrt{226}$

$4\sqrt{226}$

Use scrap graph paper

13. If the endpoints of $\overline{AB}$ are $A(-4, 5)$ and $B(2, -5)$, what is the length of $\overline{AB}$?

1) $2\sqrt{34}$
2) 2
3) $\sqrt{61}$
4) 8

$d=\sqrt{\Delta x^2+\Delta y^2}$
$d=\sqrt{6^2+10^2}$
$d=\sqrt{36+100}$
$d=\sqrt{136}$
$\sqrt{4}\ \sqrt{34}$
$2\sqrt{34}$

14. What is the distance between the points $(-3, 2)$ and $(1, 0)$?

1) $2\sqrt{2}$
2) $2\sqrt{3}$
3) $5\sqrt{2}$
4) $2\sqrt{5}$

$d=\sqrt{\Delta x^2+\Delta y^2}$
$d=\sqrt{4^2+2^2}$
$d=\sqrt{16+4}$
$d=\sqrt{20}$
$\sqrt{4}\ \sqrt{5}$
$2\sqrt{5}$

type into calc

15. What is the length, to the *nearest tenth*, of the line segment joining the points $(-4, 2)$ and $(146, 52)$?

1) 141.4
2) 150.5
3) 151.9
4) 158.1

$d=\sqrt{\Delta x^2+\Delta y^2}$
$d=\sqrt{150^2+50^2}$
$d=158.1$

$\Delta x = 146-(-4)=150$
$\Delta y = 52-2=50$

16. What is the length of the line segment with endpoints $(-6, 4)$ and $(2, -5)$?

1) $\sqrt{13}$
2) $\sqrt{17}$
3) $\sqrt{72}$
4) $\sqrt{145}$

$d=\sqrt{\Delta x^2+\Delta y^2}$
$d=\sqrt{8^2+9^2}$
$d=\sqrt{64+81}$
$d=\sqrt{145}$

17. In circle O, a diameter has endpoints $(-5,4)$ and $(3,-6)$. What is the length of the diameter?

(1) $\sqrt{2}$
(2) $2\sqrt{2}$
(3) $\sqrt{10}$
(4) $2\sqrt{41}$

$d=\sqrt{\Delta x^2+\Delta y^2}$
$d=\sqrt{8^2+10^2}$
$d=\sqrt{64+100}$
$d=\sqrt{164}$
$\sqrt{4}\ \sqrt{41}$
$2\sqrt{41}$