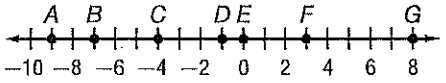
Name _____ Hour _____

Distance Formula Worksheet

DISTANCE

Exercises

Use the number line to find each measure.



1. BD 6
2. DG 9
3. AF 12
4. EF 3
5. BG 15
6. AG 17
7. BE 7
8. DE 1

Distance Formula:

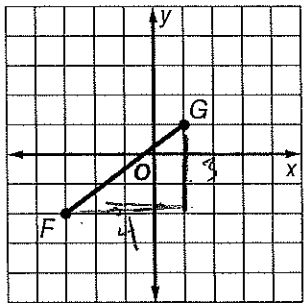
$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

Find the distance between each pair of points.

9. $A(0, 0), B(6, 8)$ $6^2 + 8^2 = \sqrt{100} = 10$
10. $R(-2, 3), S(3, 15)$ $5^2 + 12^2$
11. $M(1, -2), N(9, 13)$ $8^2 + 15^2 = \sqrt{289} = 17$
12. $E(-12, 2), F(-9, 6)$
13. $X(0, 0), Y(15, 20)$ $15^2 + 20^2 = \sqrt{625} = 25$
14. $O(-12, 0), P(-8, 3)$
15. $C(11, -12), D(6, 2)$ $5^2 + 14^2 = \sqrt{221} \approx 14.87$
16. $K(-2, 10), L(-4, 3)$

Find the distance between each pair of points.

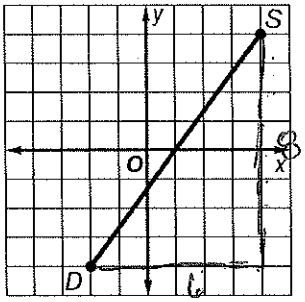
17.



$3^2 + 4^2 = \sqrt{25}$

$d = 5$

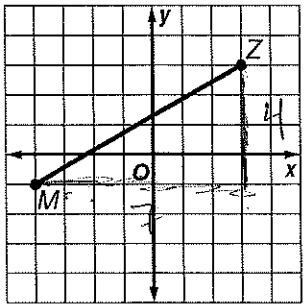
18.



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

$d = 10$

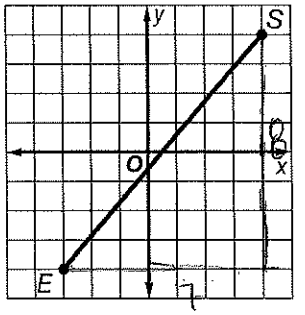
19.



$4^2 + 7^2 = \sqrt{65}$

$d \approx 8.06$

20.

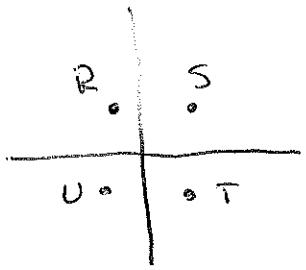


$7^2 + 8^2 = \sqrt{113}$

$d \approx 10.63$

21.

PERIMETER The coordinates of the vertices of a quadrilateral are $R(-1, 3)$, $S(3, 3)$, $T(5, -1)$, and $U(-2, -1)$. Find the perimeter of the quadrilateral. Round to the nearest tenth.



$\overline{RS} = 4$

$\overline{ST} = 2^2 + 4^2 = \sqrt{20} \approx 4.5$

$\overline{TU} = 7^2 = 7$

$\overline{UR} = 1^2 + 4^2 = \sqrt{17} \approx 4.1$

$P = 19.6$

Find the distance between the points listed. Use the results to find the distance from the pitcher's rubber to the home plate in baseball.

1. (–2, –3) and (–2, 4) $\Delta x = 0$ $\Delta y = 7$ (7)
2. (–7, 5) and (1, –1) $8^2 + 6^2 =$ (10)
3. (–2, 3) and (3, –2) $5^2 + 5^2 = 5\sqrt{2}$
4. (–6, –2) and (–7, –5) $1^2 + 3^2 =$ ($\sqrt{10}$)
5. (–2, –1) and (–5, –5) $3^2 + 4^2 =$ (5)
6. (–2, 6) and (–10, –9) $8^2 + 15^2 =$ (17)
7. (2, –12) and (7, 0) $5^2 + 12^2 =$ (13)
8. (3, –2) and (5, –3) $2^2 + 1^2 =$ (18)
9. (–4, 5) and (8, –4) $12^2 + 9^2 =$ (15)

7	$\sqrt{5}$	13	15	5	$\sqrt{10}$	17	10	$5\sqrt{2}$
C	E	F	H	I	N	S	T	X

S I X F E E T,
6 5 3 7 8 8 2

S I X I N C H E S
6 5 3 5 4 1 9 8 6