## Warmup 3/(A perfect game in bowling divided by 60) + 6 Created by Johnathan S .

Determine if eachis a function and explain why.
1)

| $x$ | $y$ |
| :--- | :--- |
| 1 | 3 |
| 2 | 6 |
| 3 | 12 |
| 4 | 20 |

Yes
2) $(5,24)(6,28)(7,29)(8,29)$
Yes
4) Input = Student

Output = Their current letter grade in Literacy

## QUESTION....

- How many miles is it DIRECTLY from Nashville to Memphis? (As the crow flies)



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How far are these points from each other???


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$$
\begin{aligned}
& 3^{2}+2^{\pi}=x^{2} \\
& 9+4=x^{2} \\
& 13=x^{2} \\
& 3.6 \approx x
\end{aligned}
$$



How can we get the EXACT distance???


Finding the Distance between Points in the Coordinate Plane

- Draw a right triangle
- Count the side lengths
- Use the Pythagorean Theorem!


## Find the distance between the points.



## Find the distance between the points.



Example 3

- What is the distance between $(-3, \underline{2})$ and $(4, \underline{6})$ ? Draw a picture to help!!!

$$
\begin{gathered}
7^{2}+4^{2}=d^{2} \\
49+16=d^{2} \\
65=d^{2} \\
8.1 \approx d
\end{gathered}
$$


(going from -3 to 4 )

## Example 4 (No graph!)

- Can you figure out what the distance would be between (25), 10) and (45), 16)?


$$
\begin{gathered}
20^{2}+6^{2}=x^{2} \\
400+36=x^{2} \\
436=x^{2} \\
20.9 \approx x
\end{gathered}
$$

## Example 5

- Find the perimeter of the triangle.



## BONUS:

- Find the area and perimeter of a 15.6 inch laptop screen that has a height of 8 inches.

$x \approx 13.4$

Perimeter $=\ell+w+\ell+w$


$$
\begin{gathered}
\text { HW: p. } 415(1-6,12) \\
\text { p. } 435(1-4) \\
\text { •DUE TOMORROW }
\end{gathered}
$$

