

FULL NAME _____
ID NUMBER _____

1. (3 points) Find the *distance* between the points $(1, 2)$ and $(3, -4)$.

A. $\sqrt{51}$

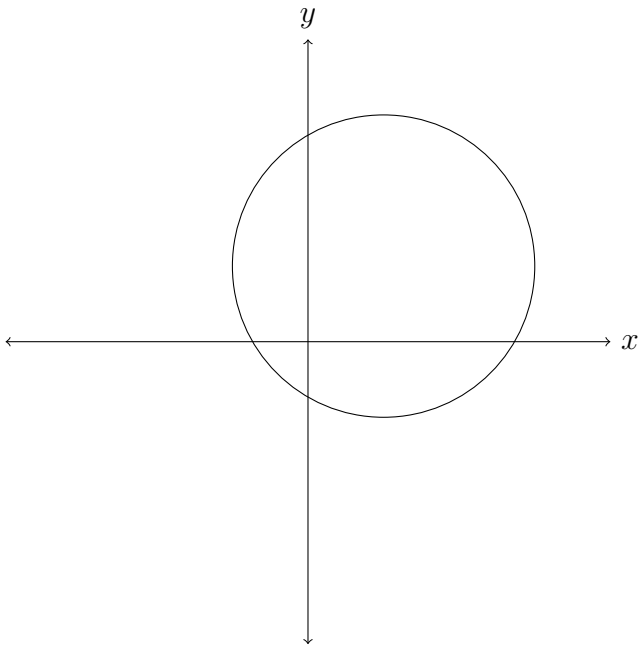
B. $\sqrt{40}$

C. 0

D. 15

E. -3

2. (3 points) Is this the graph of a function? A. Yes. **B. No.**



3. (4 points) The function $f(x)$ is given by this formula: $f(x) = x^2 + 2$. Find the value of $f(x)$ at the given inputs.

$$f(2) = (2)^2 + 2 = 4 + 2 = 6$$

$$f(-4) = (-4)^2 + 2 = 16 + 2 = 18$$

4. (0 points) What color is math?

A. Yellow

B. Blue

C. Green

D. Red

E. Purple

F. Other (please specify)

USEFUL FORMULAS

- $m = \frac{y_2 - y_1}{x_2 - x_1}$
- $y = mx + b$
- $Ax + By = C$
- $y - y_1 = m(x - x_1)$
- $a^2 - b^2 = (a + b)(a - b)$
- $a^3 + b^3 = (a + b)(a^2 - ab + b^2)$
- $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$
- $(a + b)^2 = a^2 + 2ab + b^2$
- $(a - b)^2 = a^2 - 2ab + b^2$
- $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
- $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$
- $(x - h)^2 + (y - k)^2 = r^2$
- $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
- $a^2 + b^2 = c^2$
- $a^m a^n = a^{m+n}$
- $a^0 = 1$
- $\frac{a^m}{a^n} = a^{m-n}$
- $(a^m)^n = a^{m \cdot n}$
- $(ab)^m = a^m b^m$
- $\frac{1}{a^n} = a^{-n}$
- $\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}, (b \neq 0)$