Bellwork Alg 2B Wednesday, December 6, 2017

1. The Vertices are $(3\frac{2}{3},-4)$ and $(6\frac{1}{3},-4)$ and a Focus is $(5\frac{5}{6},-4)$. Write the equation of this function. Make sure your answer doesn't have any decimals or compound fractions.

2. A machine puts c caps on bottles in m minutes. How many hours will it take to put caps on b bottles?

A. $\frac{60bm}{c}$ B. $\frac{bm}{60c}$ C. $\frac{bc}{60m}$ D. $\frac{60b}{cm}$ E. $\frac{b}{60cm}$

3. Paint needs to be thinned to a ratio of 2 parts paint to 1.5 parts water. The painter has by mistake added water so that he has 6 litres of paint which is half water and half paint. What must he add to make the proportions of the mixture correct?

A. 1 litre paint
B. 1 litre water
C. ½ litre water and one litre paint
D. ½ litre paint and one litre water
E. ½ litre paint

Bellwork Alg 2B Wednesday, December 6, 2017 Answers

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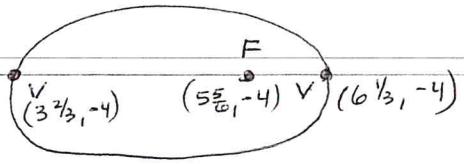

THIS IS AN ELLIPSE WITH HORIZ. MAJOR AXIS

BASIC EQ: $\frac{x^2}{a^2}+\frac{y^2}{b^2}=1$

FIND CENTER midpoint of Vertices

$\left(\frac{3\frac{2}{3}+6\frac{1}{3}}{2}, \frac{-4+-4}{2}\right)$

$\left(\frac{10}{2}, \frac{-8}{2}\right) \Rightarrow (5,-4)$

$\frac{(x-5)^2}{\frac{16}{9}}+\frac{(y+4)^2}{\frac{39}{36}}=1$

$\frac{9(x-5)^2}{16}+\frac{36(y+4)^2}{39}=1$

Find a^2 & b^2:

a = distance from center to a Vertex

$a = 6\frac{1}{3}-5 = 1\frac{1}{3} = \frac{4}{3} \rightarrow a^2=\frac{16}{9}$

c = distance from center to Focus

$c = 5\frac{5}{6}-5 = \frac{5}{6} \rightarrow c^2=\frac{25}{36}$

$c^2=a^2-b^2$

$\frac{25}{36}=\frac{16}{9}-b^2$

$b^2=\frac{16}{9}-\frac{25}{36}$

$=\frac{64}{36}-\frac{25}{36}=\frac{39}{36}$

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rate

$\frac{c}{m}\ \frac{\text{caps}}{\text{min}} \cdot \frac{60\,\text{min}}{\text{hr}} = \frac{60c}{m}\ \frac{\text{caps}}{\text{hr}}$

$\frac{\text{caps}}{\text{hr}} \times \text{hrs} = \#\,\text{caps}$

$\frac{m}{60c} \cdot \left(\frac{60c}{m}\right) \cdot (H) = (b)\left(\frac{m}{60c}\right)$

$H = \frac{bm}{60c}$

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6 litres of paint that is ½ water

$\frac{2}{2} \cdot \frac{2\ \text{paint}}{1.5\ \text{water}} = \frac{3\ \text{paint}}{3\ \text{water}}$

$\frac{4\ \text{paint}}{3\ \text{water}} = \frac{3\text{paint} + 1\ \text{litre paint}}{3\ \text{water}}$