Bellwork Hon Alg 2 Tuesday, March 7, 2017

1. A line in the xy-plane passes through the origin and has a slope of $\frac{1}{7}$. Which of the following points lies on the line?

A) $(0,7)$ B) $(1,7)$ C) $(7,7)$ D) $(14,2)$ E) None of these

2. In a right triangle, one angle measures $x°$, where $\sin x = \frac{4}{5}$. What is $\cos(90° - x°)$?

Simplify each. Write your answers so that no exponents are zero or negative.

3. $\frac{3^{-2}w^5z^{-6}}{6v^0w^{-4}x^7}$

4. $\left(\frac{5c^{-4}d^5}{15c^{-2}d^{-7}}\right)^{-2}$

5. $(3j^{-2}k^4)^3(5j^3k^{-7})^2$

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1. A line in the xy-plane passes through the origin and has a slope of $\frac{1}{7}$. Which of the following points lies on the line?

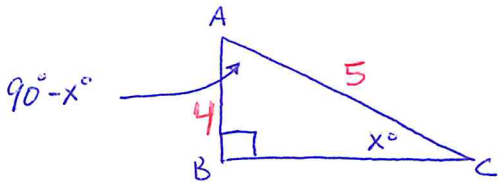
THIS IS DIRECT VARIATION!

A) $(0,7)$ B) $(1,7)$ C) $(7,7)$ D) $(14,2)$ E) None of these

$k = \frac{y}{x} = \frac{1}{7}$ → $\frac{2}{14} = \frac{1}{7}$

2. In a right triangle, one angle measures $x°$, where $\sin x = \frac{4}{5}$. What is $\cos(90° - x°)$?

SOHCAHTOA



$\sin x = \frac{4}{5} = \frac{\text{opp leg}}{\text{hyp}}$

$\cos(90 - x) = \frac{\text{ADJ LEG}}{\text{hyp}} = \frac{4}{5}$

Simplify each. Write your answers so that no exponents are zero or negative.

3. $\frac{3^{-2}w^5z^{-6}}{6v^0w^{-4}x^7}$

$= \frac{w^9}{3^2 \cdot 6\, z^6 x^7}$

$= \frac{w^9}{54x^7z^6}$

4. $\left(\frac{5c^{-4}d^5}{15c^{-2}d^{-7}}\right)^{-2}$

$= \left(\frac{d^{12}}{3c^2}\right)^{-2}$

$= \left(\frac{3c^2}{d^{12}}\right)^{2}$

$= \frac{9c^4}{d^{24}}$

5. $(3j^{-2}k^4)^3(5j^3k^{-7})^2$

$= (27j^{-6}k^{12})(25j^6k^{-14})$

$= 675j^0k^{-2}$

$= \frac{675}{k^2}$