Algebra 2 Bellwork Wednesday, March 9, 2016

NO CALCULATOR on these problems.

12. 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) $(14, 2)$

14. If $3x - y = 12$, what is the value of $\frac{8^x}{2^y}$?

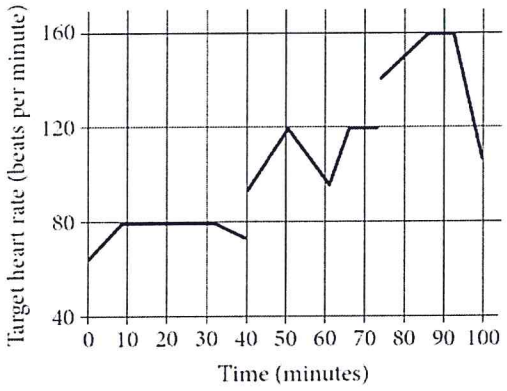
A) 2^{12}
B) 4^4
C) 8^2
D) The value cannot be determined from the information given.

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

20. If $a = 5\sqrt{2}$ and $2a = \sqrt{2x}$, what is the value of x ?

You CAN use a calculator on the following questions.

1. John runs at different speeds as part of his training program. The graph shows his target heart rate at different times during his workout. On which interval is the target heart rate strictly increasing then strictly decreasing?



A) Between 0 and 30 minutes
B) Between 40 and 60 minutes
C) Between 50 and 65 minutes
D) Between 70 and 90 minutes

4. If $16 + 4x$ is 10 more than 14, what is the value of $8x$?

A) 2
B) 6
C) 16
D) 80

6.

1 decagram = 10 grams
1,000 milligrams = 1 gram

A hospital stores one type of medicine in 2-decagram containers. Based on the information given in the box above, how many 1-milligram doses are there in one 2-decagram container?

A) 0.002
B) 200
C) 2,000
D) 20,000

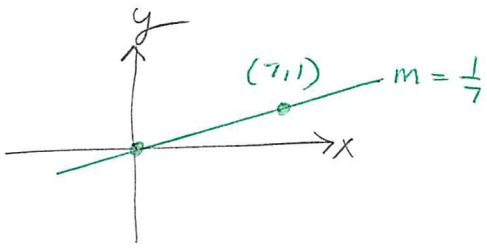
Answers to Alg 2 Bellwork WED 3-9-16

NO CALC

(12) (D) if it passes through the origin it's Direct Variation

$y = kx \rightarrow y = \frac{1}{7}x$

the only point that makes this equation true is (14, 2)



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(14) (A)

$$\frac{8^x}{2^y} = \frac{(2^3)^x}{2^y} = \frac{2^{3x}}{2^y} = 2^{3x-y} = 2^{12}$$

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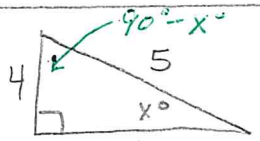
(19) $\sin x^\circ = \frac{4}{5}$



$90^\circ - x^\circ$ is the other acute angle in the rt. $\triangle$.

$\cos(90^\circ - x^\circ) = \frac{\text{adjacent leg}}{\text{hyp}} = \frac{4}{5}$

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(20) $a = 5\sqrt{2}$ $\quad 2a = \sqrt{2x}$ $\rightarrow$ $2(5\sqrt{2}) = \sqrt{2x}$

use substitution

$(10\sqrt{2})^2 = (\sqrt{2x})^2$

$100 \cdot 2 = 2x$

$x = 100$

CALC OK

(1) (B)

(4) (C) $16 + 4x = 14 + 10$

$16 + 4x = 24$

$-16 \quad -16$

$2(4x) = (8)2$

$8x = 16$

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(6) (D)

$$2 \text{ dg} \cdot \frac{10 \text{ g}}{1 \text{ dg}} \cdot \frac{1000 \text{ mg}}{1 \text{ g}} = 20{,}000 \text{ mg}$$