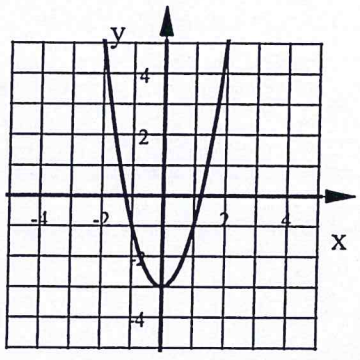
Bellwork Alg 2 Monday, October 15, 2018

1. An experiment requires three beakers containing different amounts, in milliliters (mL), of a saline solution. The three beakers contain 120 mL, 340 mL, and 275 mL , respectively. What is the approximate total number of ounces of saline solution contained in the three beakers?
(Use 1 ounce = 29.5735 milliliters) A) 15.55 B) 20.80 C) 21.74 D) 24.85

2. $\frac{3}{4}x + ax = 10$ In this equation, a is a constant. If $x = 24$ is the solution to the equation, what is the value of a? A) $-\frac{4}{3}$ B) $-\frac{1}{3}$ C) $\frac{40}{99}$ D) $\frac{7}{6}$

3. $C = 1.6(30w + 70)$ This formula can be used to approximate the daily requirement C, in calories, of an adult dog in terms of the dog's weight w, in kilograms. If a dog has a daily requirement of at least $1,120$ calories and at most $1,216$ calories, which of the following represents the range of all possible values of the dog's body weight, to the nearest tenth of a kilogram?
A) $21.0 \le w \le 23.0$ B) $21.9 \le w \le 23.9$ C) $24.8 \le w \le 26.8$ D) $25.7 \le w \le 27.7$

4. The graph of $f(x)$ is shown below. If $g(x) = (x-1)(x-5)$, what is the value of $g(0) - f(0)$?



A) 8 B) 2 C) 0 D) –2

Bellwork Alg 2 Monday, October 15, 2018 ANSWERS

1. An experiment requires three beakers containing different amounts, in milliliters (mL), of a saline solution. The three beakers contain 120 mL, 340 mL, and 275 mL , respectively. What is the approximate total number of ounces of saline solution contained in the three beakers?

(Use 1 ounce = 29.5735 milliliters) A) 15.55 B) 20.80 C) 21.74 D) 24.85

$120 + 340 + 275 = 735$ mL TOTAL

D

$735\text{mL} \cdot \frac{1\text{ounce}}{29.5735\text{mL}} = 24.85\text{ounces}$

2. $\frac{3}{4}x + ax = 10$ In this equation, a is a constant. If $x = 24$ is the solution to the equation, what is the value of a? A) $-\frac{4}{3}$ B) $-\frac{1}{3}$ C) $\frac{40}{99}$ D) $\frac{7}{6}$

B

$\frac{3}{4}(24) + a(24) = 10$

$18 + 24a = 10$

$-18 \quad -18$

$\frac{24a}{24} = \frac{-8}{24}$

$a = -\frac{1}{3}$

3. $C = 1.6(30w + 70)$ This formula can be used to approximate the daily requirement C, in calories, of an adult dog in terms of the dog's weight w, in kilograms. If a dog has a daily requirement of at least 1,120 calories and at most 1,216 calories, which of the following represents the range of all possible values of the dog's body weight, to the nearest tenth of a kilogram?

A) $21.0 \le w \le 23.0$ B) $21.9 \le w \le 23.9$ C) $24.8 \le w \le 26.8$ D) $25.7 \le w \le 27.7$

A

$\frac{1120}{1.6} \le \frac{1.6(30w + 70)}{1.6} \le \frac{1216}{1.6}$

$700 \le 30w + 70 \le 760$

$-70 \quad -70 \quad -70$

$\frac{630}{30} \le \frac{30w}{30} \le \frac{690}{30}$

$21 \le w \le 23$

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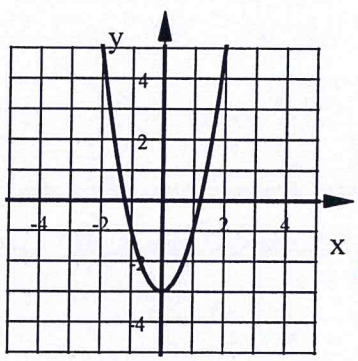

A

$g(0) = (0 - 1)(0 - 5) = (-1)(-5) = 5$

$f(0) = y\text{-intercept} = -3$

$g(0) - f(0) = 5 - -3 = 8$

A) 8 B) 2 C) 0 D) –2