Bellwork Alg 2A Tuesday, May 16, 2017

1. Q varies jointly with the A and the cube of B and inversely with the square of C. $Q = 57.6$ when $A = 6$, $B = 4$, and $C = 5$

a) Write a variation equation with the value of k rounded to the nearest hundredth as necessary.

b) Find the value of B when $Q = 750$, $A = 10$, and $C = 8$. Round to the nearest hundredth as necessary.

2. P varies directly with the square of H and inversely with the product of T and W. $P = 19.2$ when $H = 8, T = -2$, and $W = 6$

a) Write a variation equation with the value of k rounded to the nearest hundredth as necessary.

b) Find the value of W when $P = 120, H = 5, T = 18$

3. Describe this combined variation equation with a sentence. $W = \frac{6MC^2}{G^3}$

Bellwork Alg 2A Tuesday, May 16, 2017 ANSWERS

1. Q varies jointly with the A and the cube of B and inversely with the square of C. $Q = 57.6$ when $A = 6$, $B = 4$, and $C = 5$ $Q = \frac{KAB^3}{C^2}$

a) Write a variation equation with the value of k rounded to the nearest hundredth as necessary.

$57.6 = \frac{K(6)(4)^3}{(5)^2}$ $57.6 = \frac{384K}{25}$ $K = 3.75$ $Q = \frac{3.75AB^3}{C^2}$

b) Find the value of B when $Q = 750$, $A = 10$, and $C = 8$. Round to the nearest hundredth as necessary.

$750 = \frac{3.75(10)B^3}{64}$ $\sqrt[3]{1280} = \sqrt[3]{B^3}$ $B = 10.86$

2. P varies directly with the square of H and inversely with the product of T and W. $P = 19.2$ when $H = 8, T = -2$, and $W = 6$ $P = \frac{KH^2}{TW}$

a) Write a variation equation with the value of k rounded to the nearest hundredth as necessary.

$19.2 = \frac{K(8)^2}{(-2)(6)}$ $19.2 = \frac{64K}{-12}$ $K = -3.6$ $P = \frac{-3.6H^2}{TW}$

b) Find the value of W when $P = 120, H = 5, T = 18$

$120 = \frac{-3.6(25)}{18W}$ $2160W = -90$ $W = -0.04$

3. Describe this combined variation equation with a sentence. $W = \frac{6MC^2}{G^3}$

W varies jointly with M and the square of C and inversely with the cube of G.