



45. In $\triangle ABC$ above, $a = 2x$, $b = 3x + 2$, $c = \sqrt{12}$, and $\angle C = 60^\circ$. Find x .

(A) 0.50
(B) 0.64
(C) 0.77
(D) 1.64
(E) 1.78

46. If $\log_a 5 = x$ and $\log_a 7 = y$, then $\log_a \sqrt{1.4} =$

(A) $\frac{1}{2}xy$
(B) $\frac{1}{2}x - y$
(C) $\frac{1}{2}(x + y)$
(D) $\frac{1}{2}(y - x)$
(E) $\frac{y}{2x}$

47. If $f(x) = 3x^2 + 4x + 5$, what must the value of k equal so that the graph of $f(x - k)$ will be symmetric to the y -axis?

(A) -4
(B) $-\frac{4}{3}$
(C) $-\frac{2}{3}$
(D) $\frac{2}{3}$
(E) $\frac{4}{3}$