Student: _____	Instructor: Garth Isaak	Assignment: Functions and graphs practice
Date: _____	Course: precalc blitzer (1)	diagnostic 1b
Time: _____	Book: Blitzer: Precalculus Essentials, 3e	

1. Suppose a life insurance policy costs $28 for the first unit of coverage and then $7 for each additional unit of coverage. Let C(x) be the cost for insurance of x units of coverage. What will 10 units of coverage cost?

   ○A. $98

   ○B. $42

   ○C. $70

   ○D. $91

2. Use the given conditions to write an equation for the line in slope-intercept form.

   Slope = -3, passing through $(-7,3)$

   ○A. $y - 3 = x + 7$

   ○B. $y = -3x + 18$

   ○C. $y = -3x - 18$

   ○D. $y - 3 = -3x + 7$

3. Use the given conditions to write an equation for the line in point-slope form.

   Passing through $(2,6)$ and $(6,3)$

   ○A. $y + 6 = -\dfrac{3}{4}(x + 2)$ or $y + 3 = -\dfrac{3}{4}(x + 6)$

   ○B. $y - 6 = -\dfrac{3}{4}(x - 6)$ or $y - 3 = -\dfrac{3}{4}(x - 2)$

   ○C. $y - 6 = 2(x + 2)$ or $y - 3 = 6(x - 6)$

   ○D. $y - 6 = -\dfrac{3}{4}(x - 2)$ or $y - 3 = -\dfrac{3}{4}(x - 6)$

4. For the given functions f and g, find the indicated composition.

   $f(x) = -6x + 2$, $g(x) = 5x + 4$; $(g \circ f)(x)$

   ○A. $-30x - 6$

   ○B. $-30x + 26$

   ○C. $-30x + 14$

   ○D. $30x + 14$

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5.   Determine which two functions are inverses of each other.

$$f(x) = 2x, \ g(x) = \frac{x}{2}, \ h(x) = \frac{2}{x}$$

     ○A. $g(x)$ and $h(x)$

     ○B. $f(x)$ and $h(x)$

     ○C.   None

     ○D. $f(x)$ and $g(x)$

6.   Find the inverse of the one-to-one function.

$$f(x) = \frac{8x + 5}{4}$$

     ○A. $f^{-1}(x) = \dfrac{4}{8x - 5}$

     ○B. $f^{-1}(x) = \dfrac{4}{8x + 5}$

     ○C. $f^{-1}(x) = \dfrac{4x + 5}{8}$

     ○D. $f^{-1}(x) = \dfrac{4x - 5}{8}$

7.   The area of a rectangular garden is 144 square feet. The garden is to be enclosed by a stone wall costing $24 per linear foot. The interior wall is to be constructed with brick costing $10 per linear foot. Express the cost C, to enclose the garden and add the interior wall as a function of x.
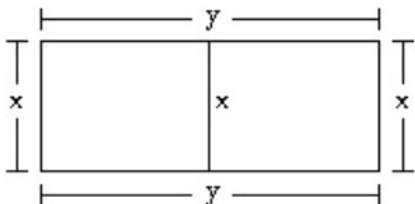
     ○A. $C(x) = 10x + 24\left(2x + \dfrac{144}{x}\right)$

     ○B. $C(x) = 24x + 10\left(2x + \dfrac{288}{x}\right)$

     ○C. $C(x) = 10x + 24\left(2x + \dfrac{288}{x}\right)$

     ○D. $C(x) = 10x + 24\left(x + \dfrac{144}{x}\right)$

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1. D

2. C

3. D

4. C

5. D

6. D

7. C