

Student: _____
Date: _____
Time: _____

Instructor: Garth Isaak
Course: precalc blitzer (1)
Book: Blitzer: Precalculus Essentials, 3e

Assignment: Functions and graphs practice
diagnostic 1a

1. Suppose a life insurance policy costs \$32 for the first unit of coverage and then \$8 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. \$80
 B. \$48
 C. \$112
 D. \$104

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

Passing through (6,4) and (2,3)

- A. $y + 4 = \frac{1}{4}(x + 6)$ or $y + 3 = \frac{1}{4}(x + 2)$
 B. $y - 4 = 6(x + 6)$ or $y - 3 = 2(x - 4)$
 C. $y - 4 = \frac{1}{4}(x - 2)$ or $y - 3 = \frac{1}{4}(x - 6)$
 D. $y - 4 = \frac{1}{4}(x - 6)$ or $y - 3 = \frac{1}{4}(x - 2)$

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

Passing through (6,3) and (4,8)

- A. $y - 3 = -\frac{5}{2}(x - 4)$ or $y - 8 = -\frac{5}{2}(x - 6)$
 B. $y - 3 = -\frac{5}{2}(x - 6)$ or $y - 8 = -\frac{5}{2}(x - 4)$
 C. $y - 3 = 6(x + 6)$ or $y - 8 = 4(x - 3)$
 D. $y + 3 = -\frac{5}{2}(x + 6)$ or $y + 8 = -\frac{5}{2}(x + 4)$

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

$$f(x) = -6x + 8, g(x) = 3x + 5; (g \circ f)(x)$$

- A. $-18x + 29$
 B. $-18x + 38$
 C. $18x + 29$
 D. $-18x - 19$

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

$$f(x) = \sqrt{x}, g(x) = \frac{1}{\sqrt{x}}, h(x) = x^2$$

- A. $g(x)$ and $h(x)$
 B. $f(x)$ and $h(x)$
 C. $f(x)$ and $g(x)$
 D. None

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

$$f(x) = \frac{4x + 4}{3}$$

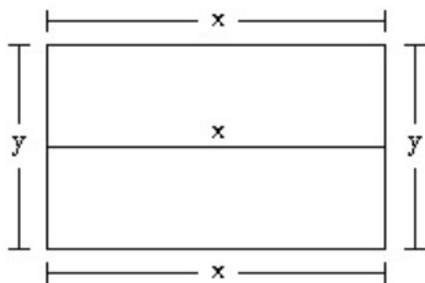
- A. $f^{-1}(x) = \frac{3x - 4}{4}$
 B. $f^{-1}(x) = \frac{3x + 4}{4}$
 C. $f^{-1}(x) = \frac{3}{4x - 4}$
 D. $f^{-1}(x) = \frac{3}{4x + 4}$

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7. Two apartment tenants have a total of 1,200 feet of fencing to enclose a rectangular garden and subdivide into two smaller gardens, one for each of them, by placing the fencing parallel to one of the sides. Express the area of the entire garden, A , as a function of x .



- A. $A(x) = x\left(\frac{1,200 - 3x}{2}\right)$
- B. $A(x) = x\left(\frac{1,200 - 2x}{3}\right)$
- C. $A(x) = x(600 - 3x)$
- D. $A(x) = x\left(\frac{600 - 3x}{2}\right)$

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1. D

2. D

3. B

4. A

5. B

6. A

7. A
