07 - Lesson 6, Exam 7

Part 1 of 1 -   **35.0/ 100.0 Points**

Question 1 of 20   5.0/ 5.0 Points

Let $f(x) = 3x + 2$ and $g(x) = x - 3$. Find $f(x) - g(x)$.

○ A. $2x - 1$

○ B. $4x - 1$

◉ C. $2x + 5$

○ D. $2x - 5$

Question 2 of 20   0.0/ 5.0 Points

What is the inverse of the given function? $y = 3x + 9$

○ A. $y = 3x - 3$

◉ B. $y = 1/3x + 3$

○ C. $y = 1/3x - 3$

○ D. $y = 3x + 3$

Question 3 of 20   0.0/ 5.0 Points

Let $f(x) = x + 2$ and $g(x) = x^2$ Find $(g \circ f)(-5)$

○ A.

   9

◉ B.

   49

○ C. -10

○ D.

   -3

Question 4 of 20   0.0/ 5.0 Points

$$f(x) = \sqrt{x - 5} \quad \text{find } f^{-1}$$

○ A.

$f^{-1}(x) = (x + 5)^2; y \geq 5$

○ B.

$f^{-1}(x) = x^2 + 25; y \geq 25$

◉ C.

$f^{-1}(x) = x^2 + 25; y^> 5$

○ D.

$f^{-1}(x) = x^2 + 5; y \geq 5$

Question 5 of 20   0.0/ 5.0 Points

What is the inverse of the given function? $y = 7x^2 - 3$.

○ A.

$$x = \pm\sqrt{\frac{y + 3}{7}}$$

◉ B.

$$y = \pm\sqrt{\frac{x-3}{7}}$$

○ C.

$$y^2 = \frac{x - 3}{7}$$

○ D.

$$y = \pm\sqrt{\dfrac{x+3}{7}}$$

Question 6 of 20   0.0/ 5.0 Points

A store is offering a 25% discount on all items. Also, employees get a 10% employee discount. If you are an employee which discount would you want to be applied first to save the most money?

◉ A. Not enough information is given

○ B. It doesn't matter which discount is applied first, the result is the same.
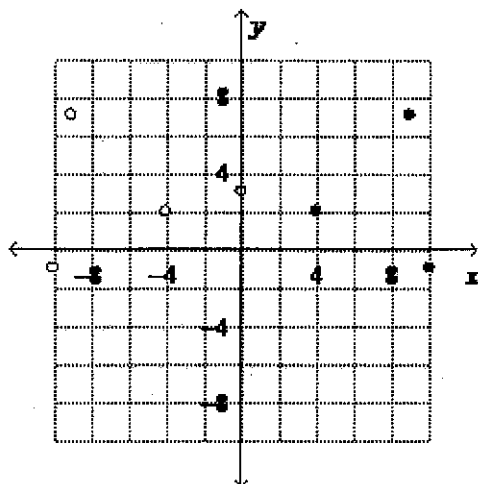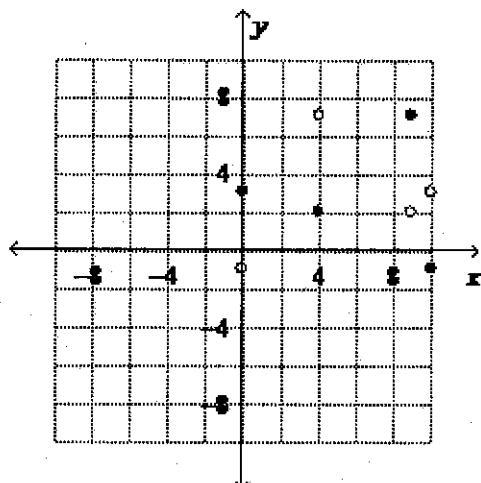
○ C. 25%

○ D. 10%

Question 7 of 20   5.0/ 5.0 Points

x	0	4	9	10
y	3	2	7	-1

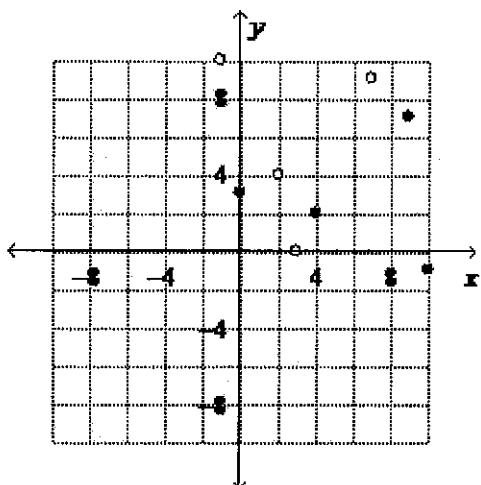Graph the relation and its inverse. Use open circles to graph the points of the inverse.
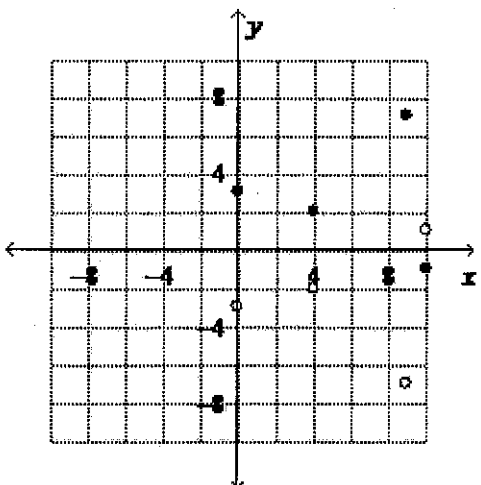
○ A.

○ B.

◉ C.

○ D.

Question 8 of 20

5.0/ 5.0 Points

Let $f(x) = 3x + 2$ and $g(x) = 7x + 6$. Find $f \cdot g$ and its domain.

○ A.
$6x^2 + 4x + 42$; all real numbers

○ B.

$21x^2 + 32x + 12$; all real numbers except $x = -6/7$

○ C.
$6x^2 + 4x + 42$; all real numbers except $x = 2/3$

◉ D.
$21x^2 + 32x + 12$; all real numbers

Question 9 of 20

0.0/ 5.0 Points

For the function $f(x) = (8-2x)^2$, find f^{-1}. Determine whether f^{-1} is a function.

○ A.

$f^{-1}(x) = \dfrac{8 \pm \sqrt{x}}{2}$; f^{-1} is not a function

○ B.

$f^{-1}(x) = \pm\sqrt{\dfrac{8+x}{4}}$; f^{-1} is a function

○ C.

$f^{-1}(x) = \pm\sqrt{\dfrac{8+x}{2}}$; f^{-1} is not a function

◉ D.

$f^{-1}(x) = \dfrac{8 \pm \sqrt{x}}{2}$; f^{-1} is a function

Question 10 of 20

5.0/ 5.0 Points

For the function $f(x) = x + 9$, find $(f \circ f^{-1})(5)$

○ A. 14

B. 5

C. -5

D. 25

Question 11 of 20

0.0/ 5.0 Points

$f(x) = x^2 - 16$ and $g(x) = x+4$. Find $\dfrac{f}{g}$ and its domain

A.

x - 4; all real numbers except $x \neq -4$

B.

x + 4; all real numbers except $x \neq -4$

C.

x + 4; all real numbers except $x \neq 4$

D.

x - 4; all real numbers except $x \neq 4$

Question 12 of 20

5.0/ 5.0 Points

Let $f(x) = -2x - 7$ and $g(x) = -4x + 3$. Find $(f \circ g)(-5)$

A.

23

B.

3

C.

-9

◉ D.

-53

Question 13 of 20

0.0/ 5.0 Points

Let f(x) = -5x - 4 and g(x) = 6x - 7. Find f(x) + g(x)

○ A. x - 11

○ B. -11x - 11

◉ C. -11x = 3b

○ D. x + 3

Question 14 of 20

0.0/ 5.0 Points

$$\frac{f}{g}$$

Let f(x) = 3x - 6 and g(x) = x - 2. Find $\frac{f}{g}$ and its domain

○ A.

   3; all real numbers

◉ B. 3; all real numbers except x = 3

○ C. 3; all real numbers except x = 2

○ D. 1; all real numbers

Question 15 of 20

0.0/ 5.0 Points

For the function f(x) = x^2 -12, find (f o f^{-1})(4)
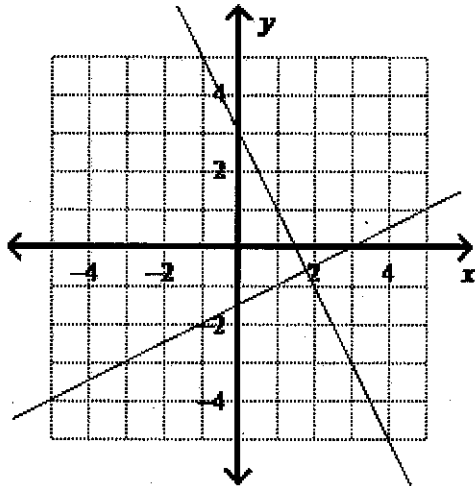
○ A. 10

○ B. 0

◉ C. 6

○ D. 4

Question 16 of 20

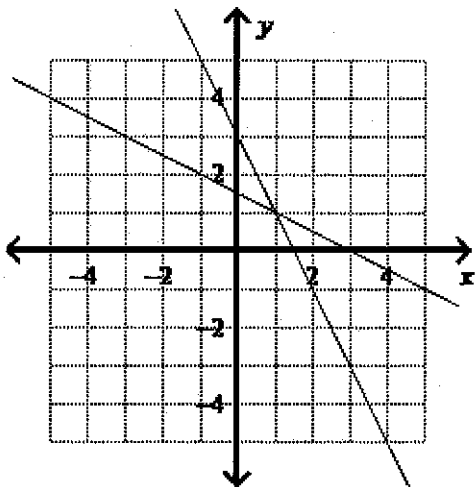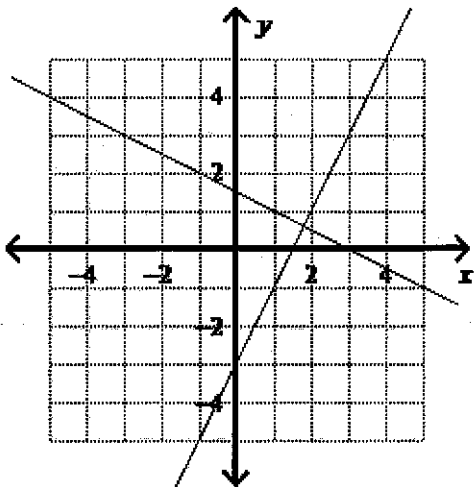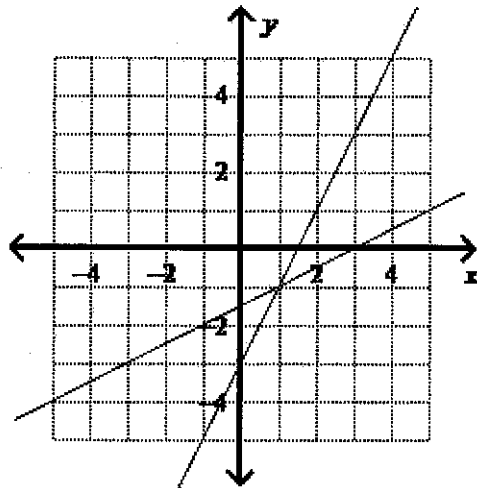5.0/ 5.0 Points

Graph y = -2x +3 and its inverse.

○ A.

◉ B.

○ C.

○ D.

Question 17 of 20   5.0/ 5.0 Points

Let f(x) = x² + 6 and $g(x) = \dfrac{x+8}{x}$. Find (g o f)(-7)

○ A.

$$\frac{384}{7}$$

○ B.

$$\frac{295}{49}$$

◉ C.

$$\frac{63}{55}$$

○ D.

$$\frac{-57}{7}$$

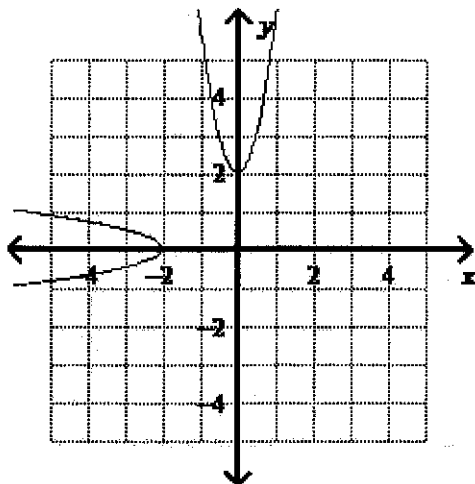Question 18 of 20   0.0/ 5.0 Points

Is relation *t* a function? Is the inverse of relations *t* a function?
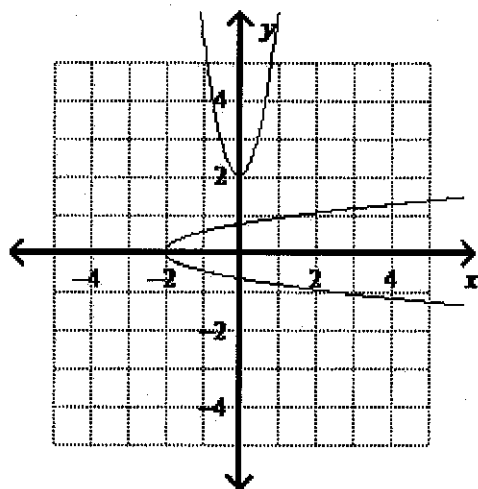
Relation *t*

x	0	1	2	3
y	-2	1	10	2

○ A.

Relation *t* is not a function. The inverse of relation *t* is not a function.

○ B.

Relation *t* is not a function. The inverse of relation *t* is not a function.

◉ C.

Relation *t* is not a function. The inverse of relation *t* is a function.

○ D.

Relation *t* is a function. The inverse of relation *t* is a function.

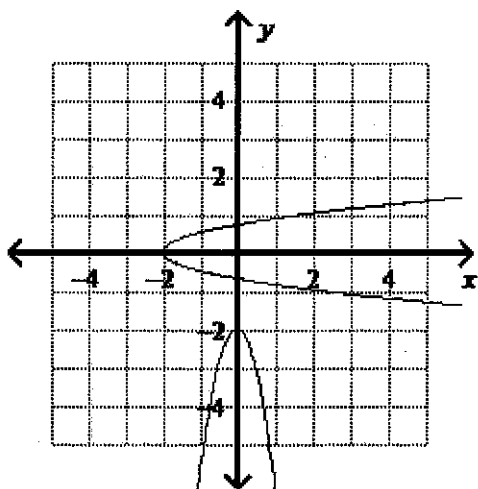Question 19 of 20   0.0/ 5.0 Points
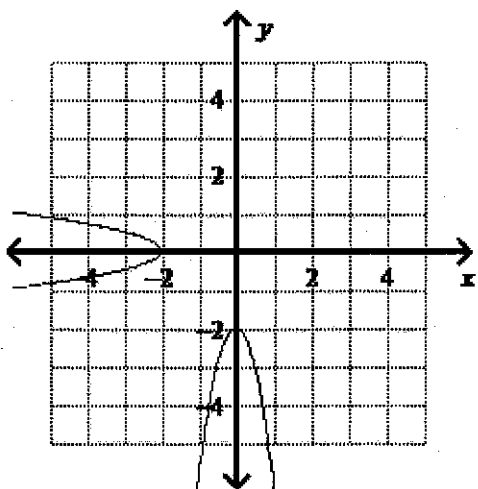
Graph $y = -4x^2 - 2$ and its inverse.

○ A.

◉ B.

○ C.

○ D.

Question 20 of 20

0.0/ 5.0 Points

Is relation t a function? Is the inverse of relations t a function?

Relation t

x	0	2	4	6
y	-8	-7	-4	-4

○ A.

   Relation t is a function. The inverse of relation t is not a functions

○ B.

   Relation t is a function. The inverse of relation t is a function.

◉ C. Relation t is not a function. The inverse of relation t is a function

○ D. Relation t is not a function. The inverse of relation t is not a function.