

 **Take Assessment: Exam 2**

Name Exam 2

Instructions

Multiple Attempts This Test allows 2 attempts. This is attempt number 1.

Force Completion This Test can be saved and resumed later.

▼ Question Completion Status:**Question 1****5 points**[Save](#)

For the given functions f and g , find the requested function and state its domain.

$f(x) = 3x^3 - 1$; $g(x) = 2x^2 + 3$
Find $f \cdot g$.

$(f \cdot g)(x) = 6x^6 + 9x^3 - 2x^2 - 3$; all real numbers

$(f \cdot g)(x) = 6x^5 + 9x^3 - 2x^2 - 3$; $\{x|x \neq 0\}$

$(f \cdot g)(x) = 3x^3 + 2x^2 - 3$; all real numbers

$(f \cdot g)(x) = 6x^5 + 9x^3 - 2x^2 - 3$; all real numbers

Question 2**5 points**[Save](#)

Given: $E=I/R$ and $P=IE$ with the values: $P=10$ and $E=100$ What are the values for I and R ?

$R=.001, I=0.1$

$R=100, I=100$

$R=0.1, I=1000$

Cannot be solved without the value of another variable.

Question 3**5 points**[Save](#)

Determine whether the equation is a function.

$y = x^2$

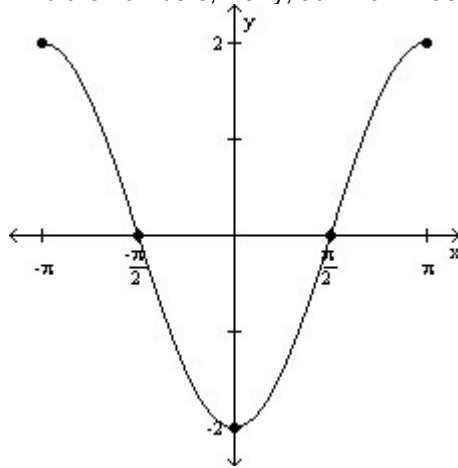
function

not a function

Question 4**5 points**[Save](#)

The graph of a function f is given. Use the graph to answer the question.

Find the numbers, if any, at which f has a local minimum. What are the local minima?



f has a local minimum at $x = -\pi$ and π ; the local minimum is 2

f has a local minimum at $x = 0$; the local minimum is -2

f has a local minimum at $x = -\pi$; the local minimum is -2

f has no local minimum

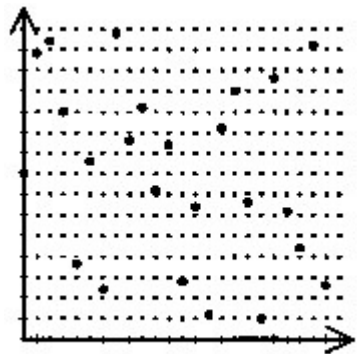
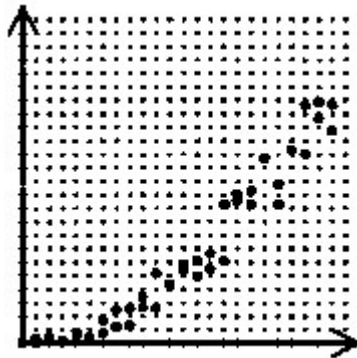
Question 5

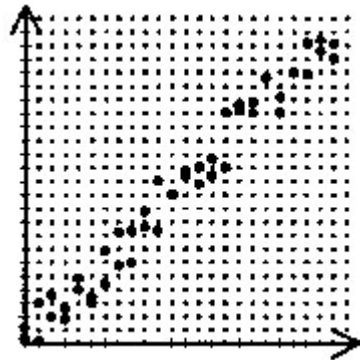
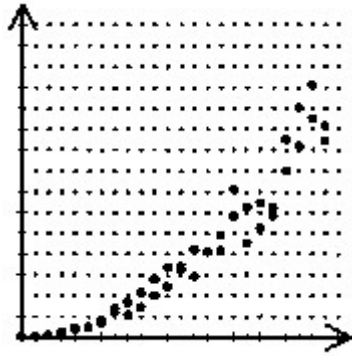
5 points

[Save](#)

Solve the problem.

Identify the scatter diagram of the relation that appears linear.





Question 6

5 points

[Save](#)

Determine whether the equation is a function.

$$y^2 + x = 8$$

function

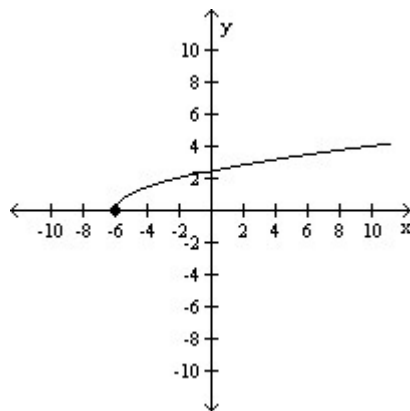
not a function

Question 7

5 points

[Save](#)

The graph of a function is given. Decide whether it is even, odd, or neither.

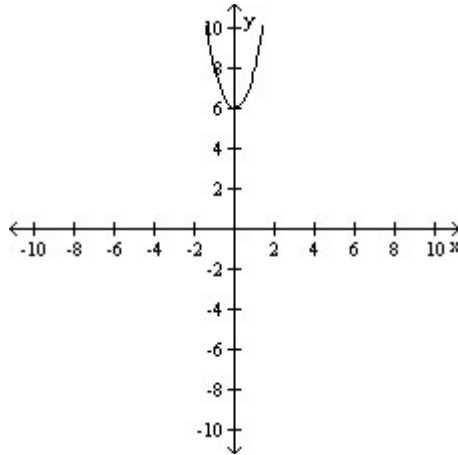


even

odd
neither

Question 8**5 points**[Save](#)

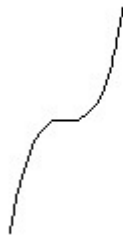
List the intercepts of the graph. Tell whether the graph is symmetric with respect to the x-axis, y-axis, origin, or none of these.



- (0, 6); symmetric to y-axis
- (0, 6); no symmetry
- (0, 6); symmetric to origin
- (0, 6); symmetric to x-axis

Question 9**5 points**[Save](#)

Match the graph to the function listed whose graph most resembles the one given.



- square function
- cube function
- square root function
- cube root function

Question 10**5 points**[Save](#)

Solve the problem.

The monthly payment p on a mortgage varies directly with the amount borrowed B . If the monthly payment on a 30-year mortgage is \$7.30 for every \$1000 borrowed, find a linear function that relates the monthly payment p to the amount borrowed B for a

mortgage with the same terms. Then find the monthly payment p when the amount borrowed is \$194,000.

$$p = \frac{B}{1000}; \$0.02$$

$$p = \frac{B}{219}; \$885.84$$

$$p = \frac{B}{30}; \$6466.67$$

$$p = 0.0073B; \$1416.20$$

Question 11**5 points**[Save](#)

Determine whether the function is symmetric with respect to the y-axis, symmetric with respect to the x-axis, symmetric with respect to the origin, or none of these.

$$y = 6x^4 + 5x - 7$$

x-axis, y-axis, origin

origin only

x-axis only

none of these

Question 12**5 points**[Save](#)

Solve the problem.

A wire of length $9x$ is bent into the shape of a square. Express the area A of the square as a function of x .

$$A(x) = \frac{81}{8} x^2$$

$$A(x) = \frac{81}{16} x^2$$

$$A(x) = \frac{1}{16} x^2$$

$$A(x) = \frac{9}{4} x^2$$

Question 13**5 points**[Save](#)

Solve the problem.

The cost C of double-dipped chocolate pretzel O's varies directly with the number of pounds of pretzels purchased, P . If the cost is \$54.42 when 5.0 pounds are purchased, find a linear function that relates the cost C to the number of pounds of pretzels purchased P . Then find the cost C when 6.0 pounds are purchased.

$$C = 0.092P; \$0.55$$

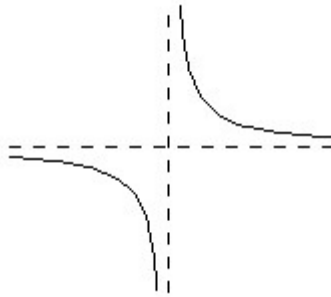
$$C = 10.884P; \$65.30$$

$$C = \frac{272.1}{P}; \$45.35$$

$$C = 9.07P; \$45.35$$

Question 14**5 points**[Save](#)

Match the graph to the function listed whose graph most resembles the one given.



absolute value function

reciprocal function

square function

square root function

Question 15**5 points**[Save](#)

Determine algebraically whether the function is even, odd, or neither.

$$f(x) = 2x^3$$

even

odd

neither

Question 16**5 points**[Save](#)

Find the domain of the function.

$$f(x) = \begin{cases} -3x & \text{if } x \neq 0 \\ -5 & \text{if } x = 0 \end{cases}$$

 $\{x|x \leq 0\}$ $\{x|x \neq 0\}$ $\{0\}$

all real numbers

Question 17**5 points**[Save](#)

Determine whether the relation represents a function. If it is a function, state the domain and range.

$$4 \rightarrow 16$$

$$5 \rightarrow 20$$

$$6 \rightarrow 24$$

$$7 \rightarrow 28$$

function

domain: {16, 20, 24, 28}

range: {4, 5, 6, 7}

function

domain: {4, 5, 6, 7}

range: {16, 20, 24, 28}

not a function

Question 18

5 points

Save

Answer the question about the given function.

Given the function $f(x) = \frac{x^2 - 8}{x - 3}$, if $x = -2$, what is $f(x)$? What point is on the graph of f ?

$$\frac{4}{5}; \left(\frac{4}{5}, -2\right)$$

$$-\frac{12}{5}; \left(-2, -\frac{12}{5}\right)$$

$$-\frac{12}{5}; \left(-\frac{12}{5}, -2\right)$$

$$\frac{4}{5}; \left(-2, \frac{4}{5}\right)$$

Question 19

5 points

Save

For the function, find the average rate of change of f from 1 to x :

$$\frac{f(x) - f(1)}{x - 1}, x \neq 1$$

$$f(x) = x^2 - 2x$$

1

$$\frac{x^2 - 2x - 1}{x - 1}$$

$x + 1$

$x - 1$

Question 20

5 points

Save

Find the average rate of change for the function between the given values.

$$f(x) = x^2 + 4x; \text{ from 4 to 9}$$

$$\frac{117}{5}$$

17

13

$\frac{85}{9}$

Save

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