

PreCal Homework 1.1 Worksheet

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True False Questions

Indicate True or False for the following Statements.

- Determine if the following set of points is a function or not a function.
 $\{(5, 7), (3, 7), (5, 8), (8, 1)\}$ (True/False)
- The graph of the equation $y = 2x^3 - 2x$ is symmetric about the origin and its x -intercepts are located at $(\pm 1, 0)$ and $(0, 0)$. (True/False)

Multiple Choice Questions

For each question, four alternative choices are given, of which only one is correct. You have to select the correct alternative and mark it in the appropriate option.

- Convert the following description of numbers into interval notation.
 Every number between -1 and 1 including -1 but not 1.
 - $(1, 1]$
 - $[-1, 1)$
 - $[-1, -1)$
 - $(-1, 2]$
- Find the domain and range of the graph below.
 - Domain : $x \in [-\infty, \infty)$; Range : $y \in (-3, 2]$
 - Domain : $x \in [-\infty, -\infty)$; Range : $y \in (-2, 1]$
 - Domain : $x \in (-\infty, \infty)$; Range : $y \in [-1, 1]$
 - Domain : $x \in [\infty, \infty)$; Range : $y \in (-2, 2]$
- Is the graph of the equation $y^2 = 28 - x^3$ symmetric with respect to the y -axis?
 - No, because when you substitute $-x$ for x , the equation has changed.
 - No, because all cubic equations are nonsymmetrical.
 - Yes, because when you substitute $-y$ for y , the equation does not change.
 - Yes, because all cubic equations are symmetric with respect to the y -axis.
- Is the function $f(x) = 4x^3 - 5x^2 - 4x + 2$ even, odd or neither?
 - neither
 - odd
 - even
- Which equation has a graph that is NOT symmetric with respect to the y -axis?
 - $y = x^4 + x^2 - x$
 - $y = x^4 + x^2$

$$\text{c. } \frac{x^2}{2} + \frac{y^2}{1} = 1$$

$$\text{d. } x^2 + (y - 3)^2 = 1$$

8. Is the function $f(x)=13$ even, odd or neither?

- a. even
- b. odd
- c. neither

9. WITHOUT using a graphing device, find the x- and y-intercepts of the graph of

$$(x - 3)^2 - (y - 2)^2 = 5$$

- a. no x-intercepts y-intercepts- (0, 0); (1, 0)
- b. x-intercepts- (0, 0); (6, 0) y-intercepts (0, 0); (0, 4)
- c. x-intercepts- (1, 0); (0, 0); (0, 0) no y-intercepts
- d. x-intercepts- (0, 0); (6, 0) y-intercepts- (0, 0)
- e. x-intercepts- (0, 0); (1, 0) y intercepts- (0, 4)

10. Find the points where x-intercepts of the curve $y = 2x^3 + 5x^2 + x - 2$ are located.

- a. $(\frac{1}{2}, 0)$, (1, 0) and (-2, 0)
- b. $(-\frac{1}{2}, 0)$, (1, 0) and (-2, 0)
- c. $(\frac{1}{2}, 0)$, (-1, 0) and (-2, 0)
- d. None of the above