hw-10-graphs-intercepts-symmetry

Due: **12/12/2015 at 06:00am EST.**

Students will be able to:

- Determine x-intercepts of Graph
- Determine y-intercepts of Graph
- Determine Symmetry of Graph

Functions and symbols that WeBWorK understands.

Links to some useful WeBWorK pages for students

Find the x- and y-intercepts of the graph of the equation $y = x^2 + 3x - 54$.

The x-intercepts are : $x_1 =$____, $x_2 =$____ with $x_1 \leq x_2$;

The y-intercept is : ____

2. (1 pt) Find the x- and y-intercepts of the graph of the equation $y = x + 2$.

The x-intercept is: ____

The y-intercept is: ____

3. (1 pt) For the graph of the equation $y = 8x + 2$, draw a sketch of the graph on a piece of paper. Then answer the following questions:

The x-intercept is : ____
The y-intercept is : ____
Is the graph symmetric with respect to the x-axis? Input yes or no here : ____
Is the graph symmetric with respect to the y-axis? Input yes or no here : ____
Is the graph symmetric with respect to the origin? Input yes or no here : ____

4. (1 pt) Find the x- and y-intercepts of the graph of the equation $y = x^2 + 3x - 10$.

The x-intercept(s) have $x =$ _____
Note: If there is more than one, give a comma separated list. If there are none, type *none* .
The y-intercept(s) have $y =$ _____
Note: If there is more than one, give a comma separated list. If there are none, type *none* .

5. (1 pt) For the equation $-2x^2 + 5y^6 = -6$ answer the following questions.
Is the equation symmetric with respect to the y-axis? (*yes* or *no*)____
Is the equation symmetric with respect to the x-axis? (*yes* or *no*)____
Is the equation symmetric with respect to the origin? (*yes* or *no*)____

6. (1 pt) Find the x- and y-intercepts of the graph of the equation $x^2 + y^2 = 64$.

The x-intercepts are : $x_1 =$____, $x_2 =$____ with $x_1 \leq x_2$;
The y-intercepts are : $y_1 =$____, $y_2 =$____ with $y_1 \leq y_2$.

7. (1 pt) Determine whether the given points are on the graph of $y = 2x + 3$. Enter *Yes* or *No* for your answers:
Is (2,7) on the graph? _____
Is (5,13) on the graph? _____
Is (2,6) on the graph? _____
Is (6,10) on the graph? _____

8. (1 pt) For the graph of the equation $x^2y^3 + x^2y^2 = 12$, answer the following questions:

Is the graph symmetric with respect to the y-axis? Input yes or no here : ____
Is the graph symmetric with respect to the x-axis? Input yes or no here : ____
Is the graph symmetric with respect to the origin? Input yes or no here : ____

9. (1 pt) For the graph of the equation $y = -x^3 + 5$, answer the following questions.
The x-intercepts have $x =$ _____
Note: If there is more than one answer enter them separated by commas. If there are none, enter *none* .
The y-intercepts have $y =$ _____
Note: If there is more than one answer enter them separated by commas. If there are none, enter *none* .
Is the graph symmetric with respect to the x-axis? Input *yes* or *no* here : ____
Is the graph symmetric with respect to the y-axis? Input *yes* or *no* here : ____
Is the graph symmetric with respect to the origin? Input *yes* or *no* here : ____

10. (1 pt) For the graph of the equation $x^2y^2 + xy = 4$, answer the following questions:

Is the graph symmetric with respect to the x-axis? Input *yes* or no here : ____
Is the graph symmetric with respect to the y-axis? Input *yes* or no here : ____
Is the graph symmetric with respect to the origin? Input *yes* or no here : ____

11. (1 pt) For the graph of the equation $y = \sqrt{x+7}$, answer the following questions:

The x-intercepts have $x =$ _____

Note: If there is more than one answer enter them separated by commas. If there are none, enter *none* .

The y-intercepts have $y =$ _____

Note: If there is more than one answer enter them separated by commas. If there are none, enter *none* .

Is the graph symmetric with respect to the x-axis? Input *yes* or *no* here : _____

Is the graph symmetric with respect to the y-axis? Input *yes* or *no* here : _____

Is the graph symmetric with respect to the origin? Input *yes* or *no* here : _____

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12. (1 pt) For the graph of the equation $y = x^3 + 3x$, answer the following questions:

Is the graph symmetric with respect to the x-axis? Input yes or no here : _____

Is the graph symmetric with respect to the y-axis? Input yes or no here : _____

Is the graph symmetric with respect to the origin? Input yes or no here : _____

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13. (1 pt) Find the x- and y-intercepts of the graph of the equation $y = x - 1$.

The x-intercept(s) have $x =$ _____

Note: If there is more than one, give a comma separated list. If there are none, type *none* .

The y-intercept(s) have $y =$ _____

Note: If there is more than one, give a comma separated list. If there are none, type *none* .

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14. (1 pt) For the equation

$$y = 3|x| - 7$$

answer the following questions:

What are the x-intercept(s) written as ordered pair(s)?

Note: If there is more than one write them separated by a comma (i.e.: (1,2),(3,4)). If there are none, type *none* in the answer blank.

x-intercept(s): _____

What is the y-intercept written as an ordered pair?

Note: If there is more than one write them separated by a comma (i.e.: (1,2),(3,4)). If there are none, type *none* in the answer blank.

y-intercept: _____

Is the graph symmetric with respect to the x-axis? (*yes* or *no*) _____

Is the graph symmetric with respect to the y-axis? (*yes* or *no*) _____

Is the graph symmetric with respect to the origin? (*yes* or *no*) _____

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15. (1 pt) For the graph of the equation $x = y^2 - 16$, answer the following questions:

the x- intercepts are x = _____

Note: If there is more than one answer enter them separated by commas.

the y - intercepts are y= _____

Note: if there is more than one answer enter them separated by commas.

Is the graph symmetric with respect to the x-axis? Input yes or no here : _____

Is the graph symmetric with respect to the y-axis? Input yes or no here : _____

Is the graph symmetric with respect to the origin? Input yes or no here : _____

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16. (1 pt) For the graph of the equation $y = x^4 + x^2$, answer the following questions:

Is the graph symmetric with respect to the x-axis? Input yes or no here : _____

Is the graph symmetric with respect to the y-axis? Input yes or no here : _____

Is the graph symmetric with respect to the origin? Input yes or no here : _____

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17. (1 pt) Find the $x-$ and $y-$ intercepts of the graph of $y = 4x^2 + 3$. If some solution does not exist, type N for both coordinates.

$x-$intercept is (_____, _____)

$y-$intercept is (_____, _____)

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18. (1 pt) Find the $x-$ and $y-$ intercepts of the graph of $y = \dfrac{9}{x} + 7$. If some solution does not exist, type N for both coordinates.

$x-$intercept is (_____, _____)

$y-$intercept is (_____, _____)

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19. (1 pt) Find the $x-$ and $y-$ intercepts of the graph of $y = \dfrac{7}{x+5}$. If some solution does not exist, type N for both coordinates.

$x-$intercept is (_____, _____)

$y-$intercept is (_____, _____)