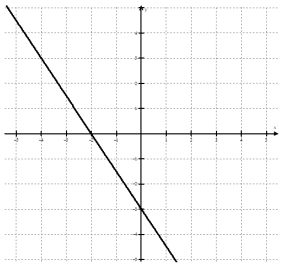
Math 2 Unit 10 Worksheet 4 **Name:**_____
Intercepts **Date:**_____ **Per:**_____

[1-12] Identifying Intercepts: Based on the graphs, name the x and y intercepts as ordered pairs. If a graph does not intersect an axis, write *none*.

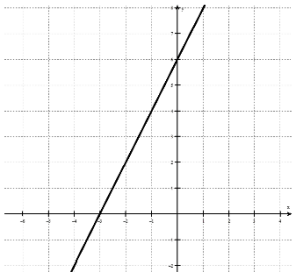
1. $y = -\frac{3}{2}x - 3$



x-intercept_____

y-intercept_____

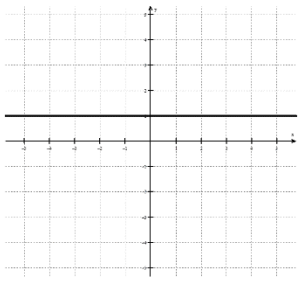
2. $y = 2x + 6$



x-intercept_____

y-intercept_____

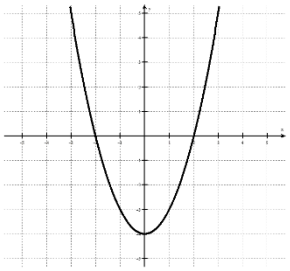
3. $y = 1$



x-intercept _____

y-intercept _____

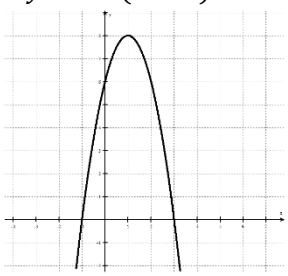
4. $y = x^2 - 4$



x-intercepts_____

y-intercept_____

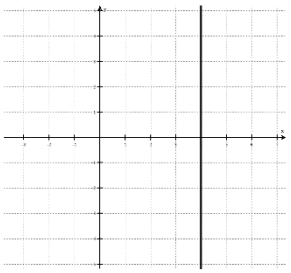
5. $y = -2(x-1)^2 + 8$



x-intercepts_____

y-intercept_____

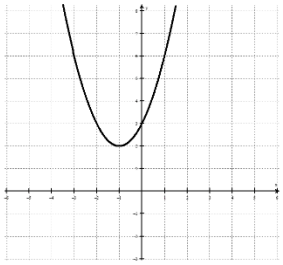
6. $x = 4$



x-intercept _____

y-intercept _____

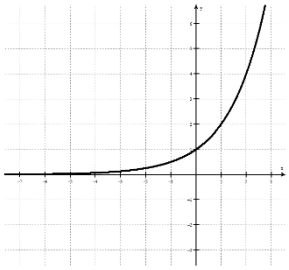
7. $y = (x+1)^2 + 2$



x-intercept_____

y-intercept_____

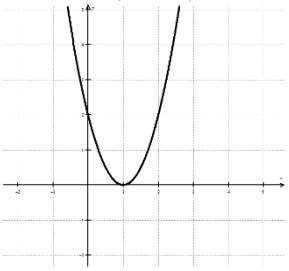
8. $y = 2^x$



x-intercept_____

y-intercept_____

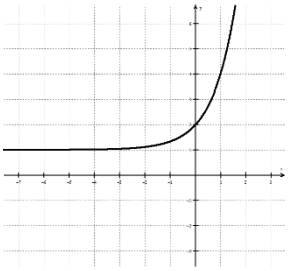
9. $y = 2(x-1)^2$



x-intercept _____

y-intercept _____

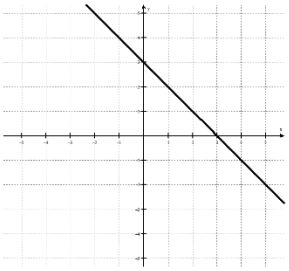
10. $y = 3^x + 1$



x-intercept_____

y-intercept_____

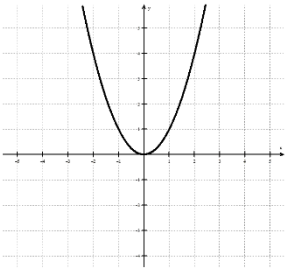
11. $y = -x + 3$



x-intercept_____

y-intercept_____

12. $y = x^2$



x-intercept _____

y-intercept _____

[13-23] State whether each statement is sometimes, always, or never true. If sometimes, give an example of each.

13. The graph of a line has a y-intercept.

14. A linear function has a y-intercept.

15. A linear function has an x-intercept.

16. A quadratic function has two x-intercepts.

17. A quadratic function has at least one x-intercept.

18. A quadratic function has at least one y-intercept.

19. A quadratic function has two y-intercepts.

20. When written as a point, one of the coordinates of an intercept is always zero.

21. When written as a point, x-intercepts have an x-coordinate of zero.

22. When written as a point, y-intercepts have an x-coordinate of zero.

23. When written as a point, x-intercepts have a y-coordinate of zero.

[24-29] Calculating Intercepts: Without graphing, calculate the intercepts for each function.

24. $y = \frac{2}{3}x - 8$ x-intercept_____ y-intercept_____

25. $y = 2x + 5$ x-intercept _____ y-intercept _____

26. $y = x^2 - 9$ x-intercepts_____ y-intercept_____

27. $y = -3x^2 + 12$ x-intercepts _____ y-intercept _____

[28-29] Challenge:

28. $y = (x - 2)^2 - 1$ x-intercepts_____ y-intercept_____

29. $y = (x - 2)^2 + 1$ x-intercepts _____ y-intercept_____