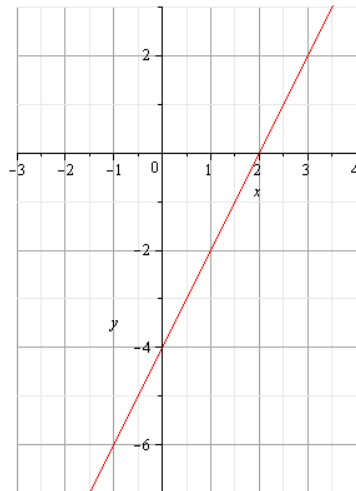


1. a. Convert 23_5 (a base 5 numeral) to a base 10 numeral.
b. Convert the number one hundred into a base 5 numeral.
2. a. Expand $(x + y)^4$.
b. What are the first and second terms in the expansion of $(a + b)^{10}$?
3. a. Expand $(2x + 5y)^3$.
b. How many terms are in the expansion of $(x + y)^{25}$?
4. If $f(x) = 8x + 4$, find the value of:
 - a. $f(2)$
 - b. $f(-1)$
 - c. $f(0)$
 - d. $f(x^3)$
5. Using the graph below find:
 - a. $f(3)$
 - b. $f(-1)$
 - c. $f(0)$
 - d. $f(1)$



6. a. sketch $y = f(x) = |2x - 1|$

b. Sketch $y = f(x) = -x + 2$
7. The points $(1, 2)$ and $(-2, 5)$ lie on a straight line.

- a. What is the slope of this line?
- b. What is the equation of the line?

8. Find the domain and range of the following functions:

a. $y = f(x) = 3x - 2$

b. $y = f(x) = \frac{1}{x+2}$

c. $y = \sqrt{x-3}$

d. $y = |x + 1|$

9. Find all values of x which make the following statements true:

a. $|x - 3| = 6$

b. $|x - 1| \leq 2$

c. $|2x| = 5$

d. $|6x + 1| = 7$

10. If $f(x) = 2x + 1$ and $g(x) = 4x - 8$, find

a. $(f + g)(1)$

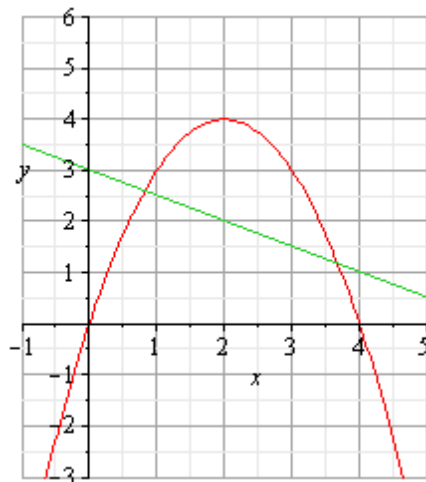
b. $(f \cdot g)(2)$

c. $\frac{f}{g}(2)$

d. $f(g(x))$

11. Consider the function graphed below to find: a.) $f(2) + g(2)$ b.) $(f - g)(0)$

c.) the slope of the line and d.) $\frac{f}{g}(3)$ Note: $f(x)$ is the parabola and $g(x)$ is the line.



12. At a price of x dollars per unit, the marketing department of a large company estimates that the weekly cost C and weekly revenue R , in thousands of dollars, will be given by the equations:

$$C = 88 - 12x \text{ and } R = 15x - 2x^2$$

- a. What is the profit function ?
- b. What is the profit when $x = 5$?
- c. For what values of x will the company suffer a loss?