Name _____

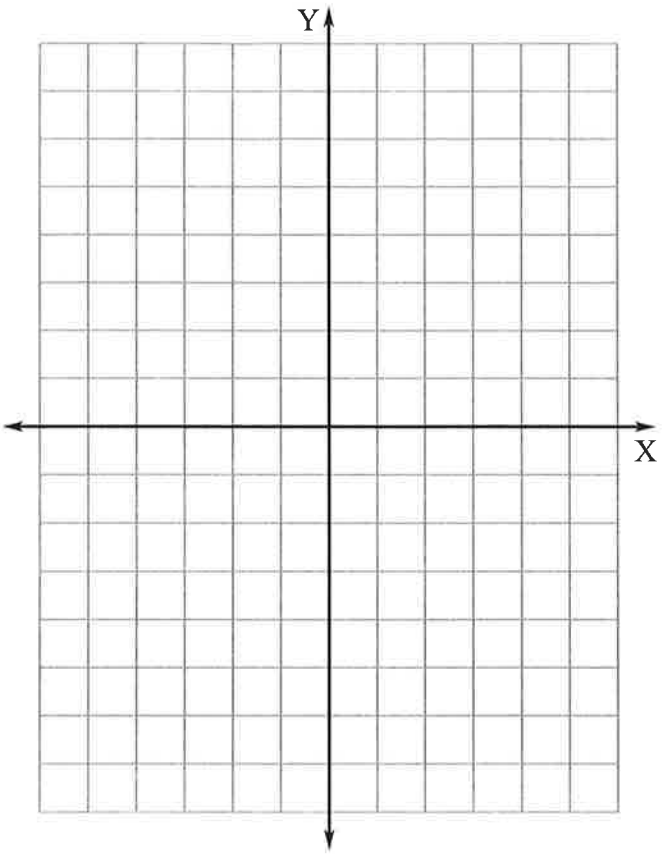
Graph each of the following on the graphs provided. (Exact points must be plotted.):

1) $y = |x - 2| + 3$
2) $2x - 3y = 6$
3) $y = \sqrt{x + 1} - 3$
4) $f(x) = \log_3 x$
5) $g(x) = \ln x$
6) $h(x) = \frac{2x-1}{x+1}$
7) $m(x) = 3^x + 2$
8) $r(x) = (\frac{1}{2})^x - 3$
9) $f(x) = -(x-1)^2 + 1$
10) $k(x) = x^3$
11) $g(x) = x$
12) $m(x) = -4$

* State Domain and Range for each graph. *

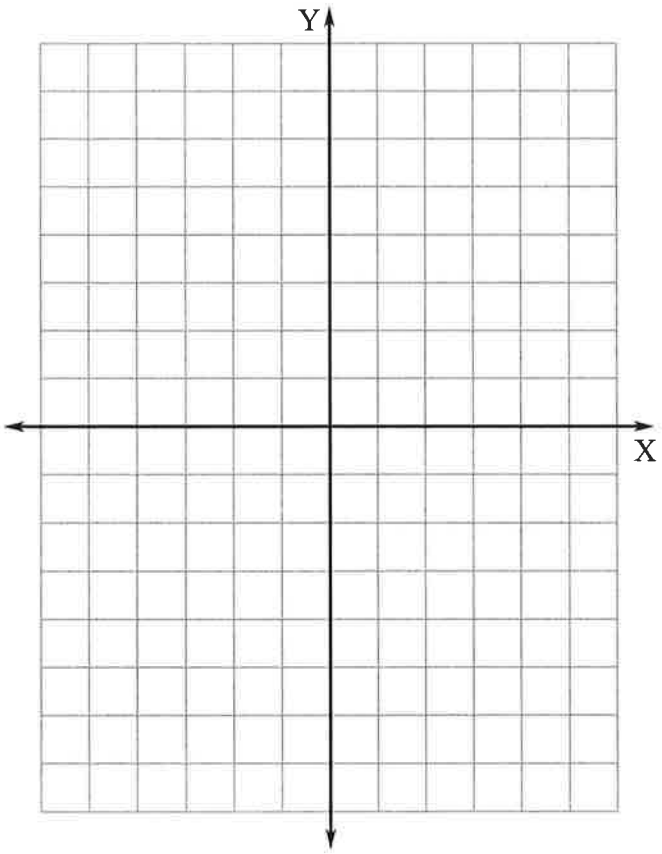
The graphing feature on a calculator should not be used for this exercise.

1)



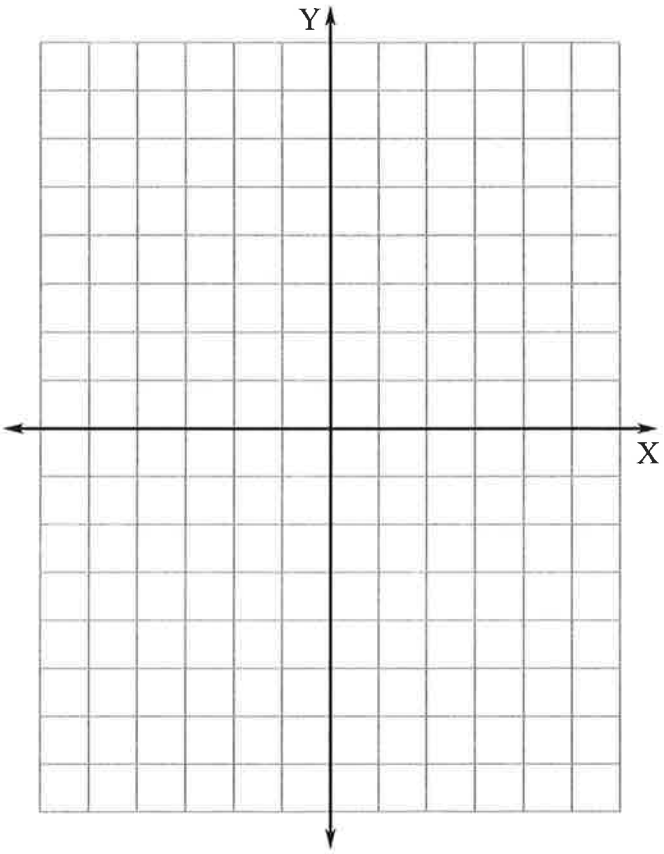
D- _____ R- _____

2)



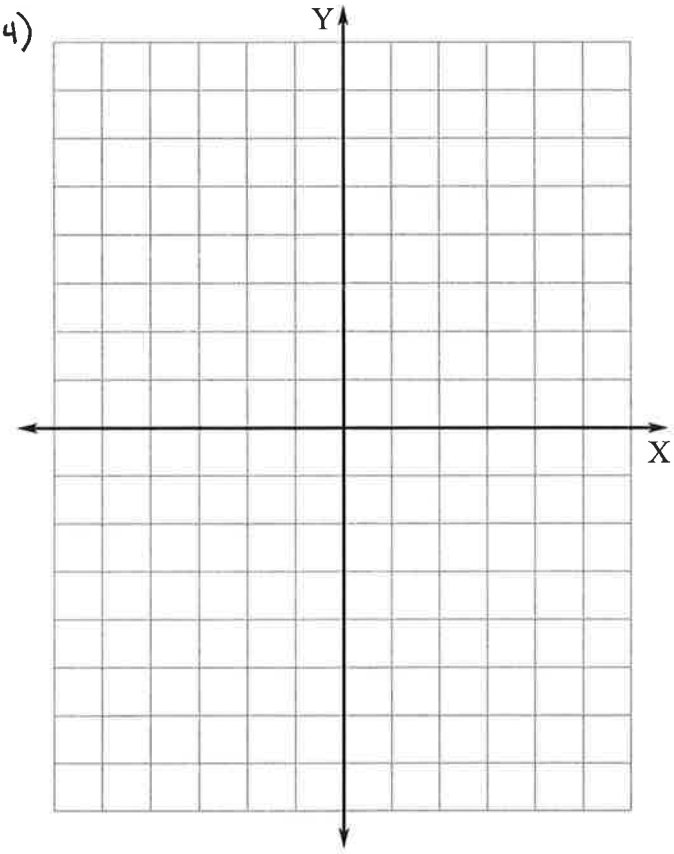
D- _____ R- _____

3)



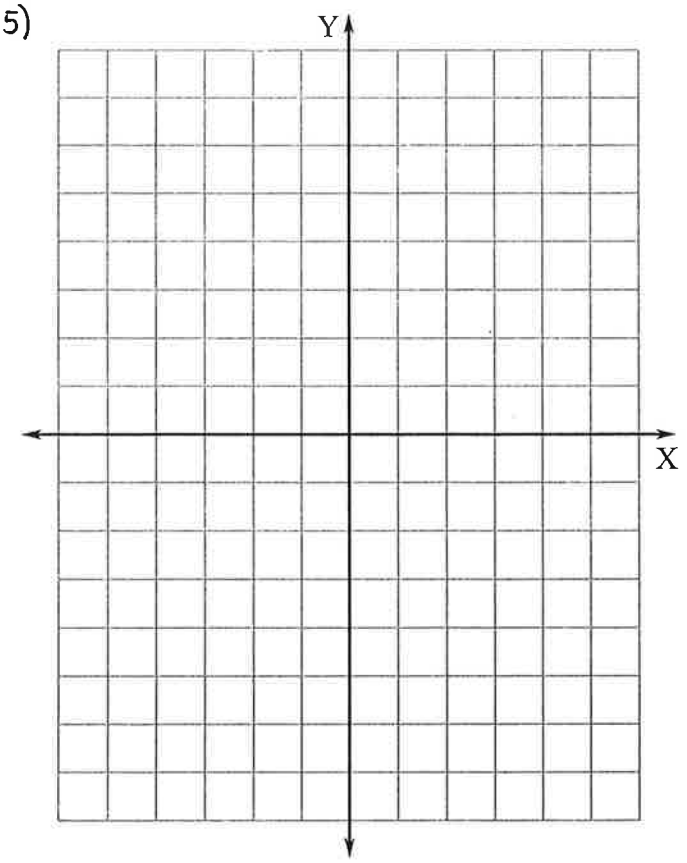
D- _____ R- _____

4)



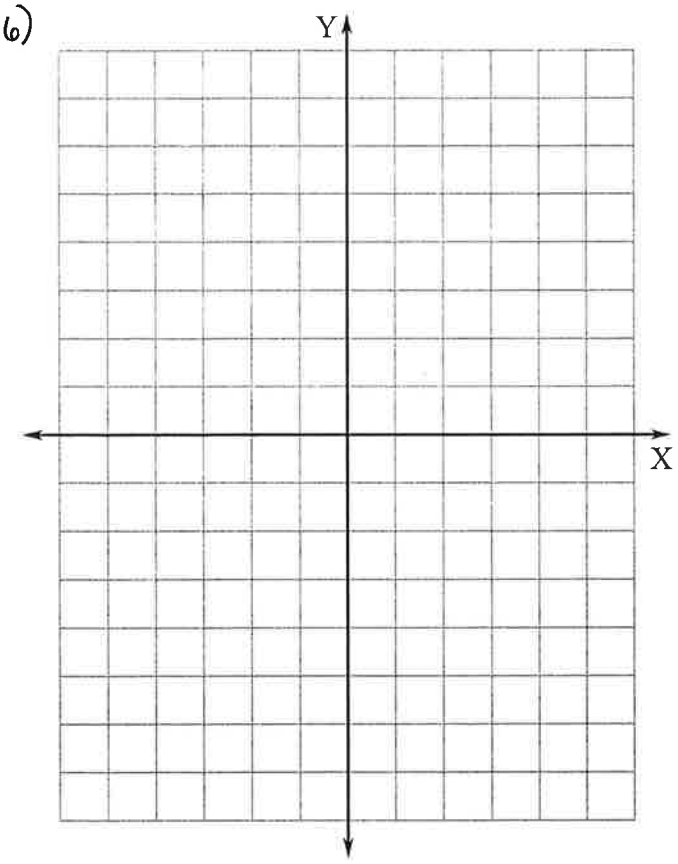
D- _____ R- _____

5)



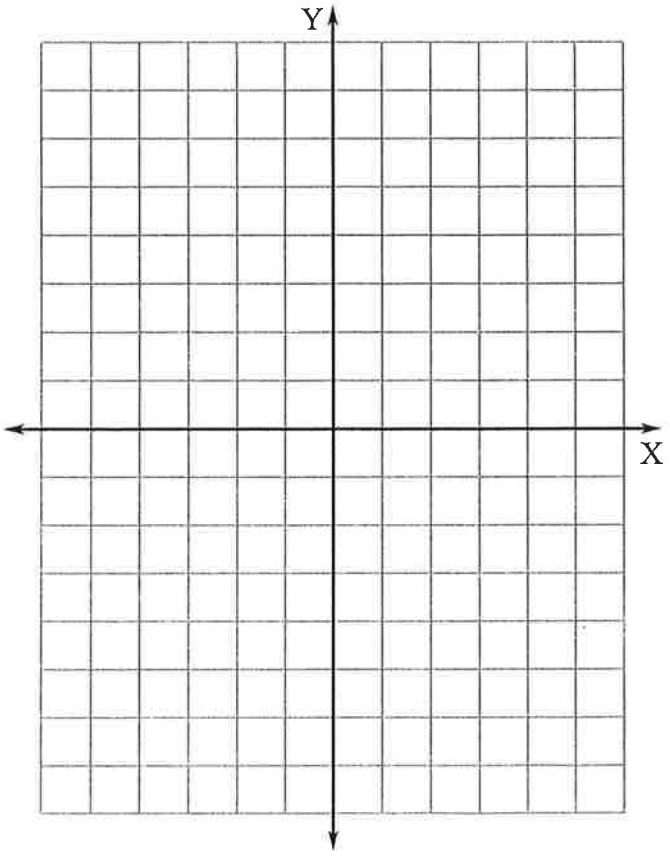
D-_____ R-_____

6)



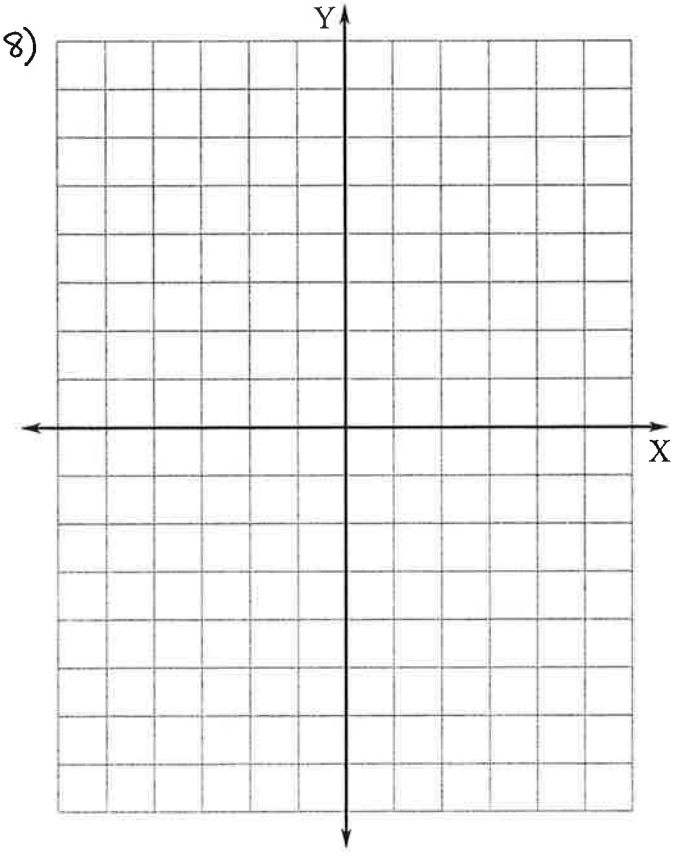
D-_____ R-_____

7)



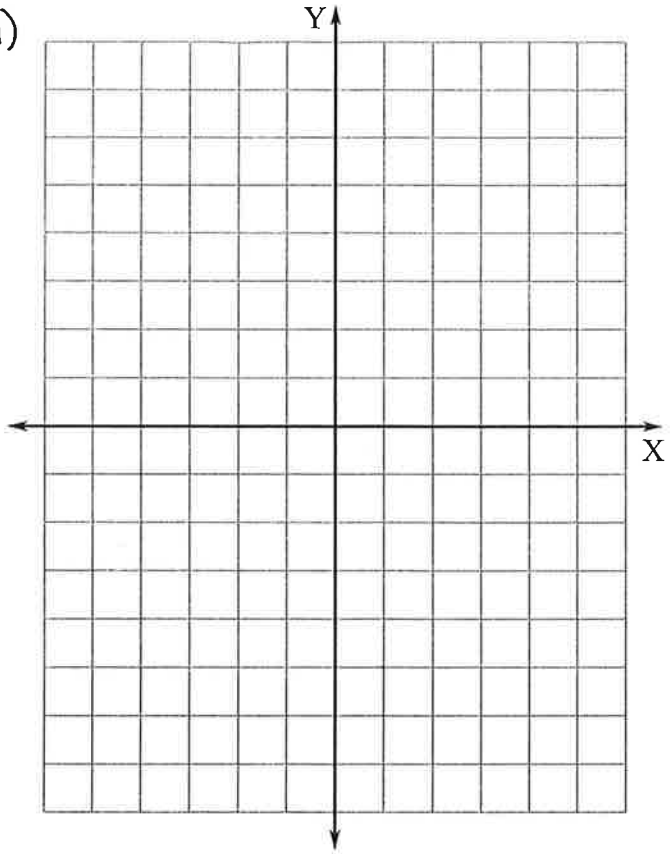
D-_____ R-_____

8)



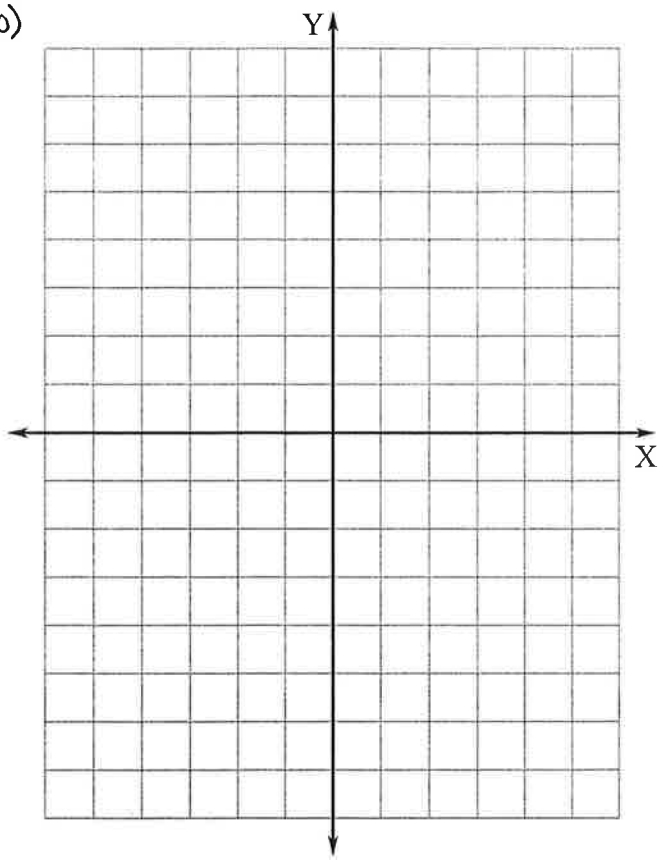
D-_____ R-_____

9)



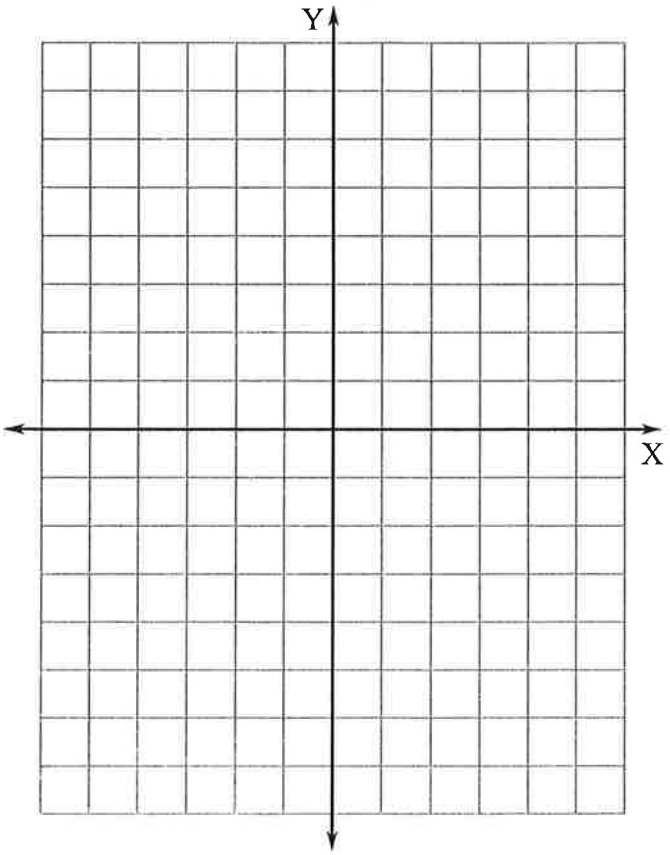
D- _____ R- _____

10)



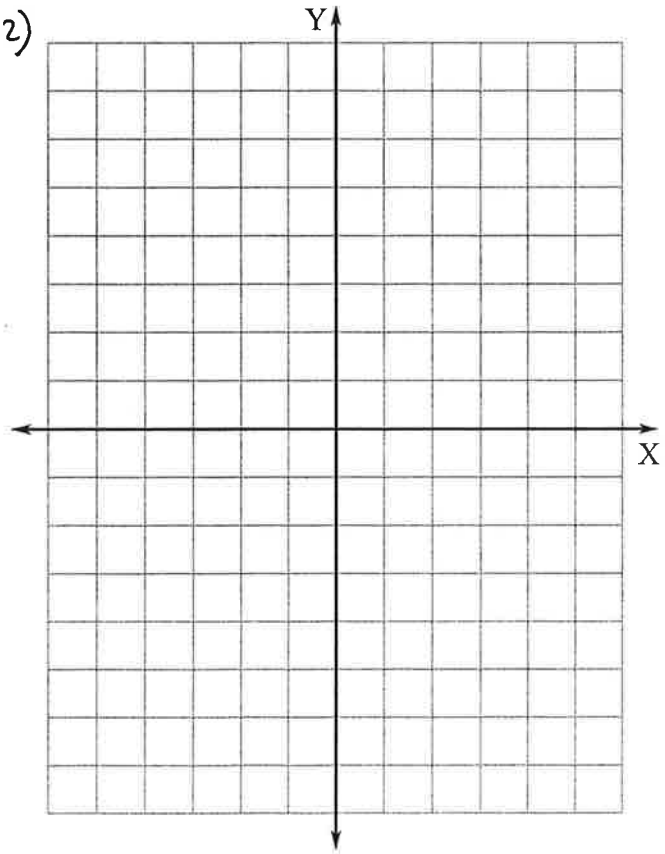
D- _____ R- _____

11)



D- _____ R- _____

12)



D- _____ R- _____

13) Find the slope of the line that passes throug the points $(\frac{2}{3}, -2)$, $(\frac{1}{4}, -5)$. Then write an equation in standard form for a line that passes through these two points. State the domain and range of this line. Slope - _____ Equation - _____ Domain - _____ Range - _____

14) Write an equation of a line that passes through the point (-5,-8) with a slope of zero. State the domain and range of this line. Equation - _____ Domain - _____ Range - _____

15) What is the domain and range of a line with an undefined slope that passes through the point (0,-5)? Domain - _____ Range - _____

16) Write an equation of a line that is perpendicular to the line with an equation of 2x+3y = 5 and that passes through the point (-8,3). Equation - _____

17) Solve : $6 - \frac{11}{x} = 3 + \frac{7}{x}$ x = _____

18) Solve : $\frac{5}{x-5} + \frac{1}{x+5} = \frac{2}{x^2-25}$ x= _____

19) Solve : $16x^2 = 25$ x = _____

20) Solve : $3x^3 - 26x^2 + 16x = 0$ x = _____

21) Solve : $\sqrt{x+4} = 3$ x = _____

22) Solve : $x^2 = 225$ x = _____

Factoring: Factor each completely

1) $4a^2+2a$ 2) $3y^2-3y-9$ 3) $6x^2-3x^4$ 4) $5x^2-5x+15$

5) y^2-6y+9 6) a^3+24a^2+144a 7) $16d^2-8d+1$ 8) x^2-2x+1

9) $4a^2-49$ 10) $3x^8-3y^8$ 11) y^2-9 12) $9a^4-a^2b^2$

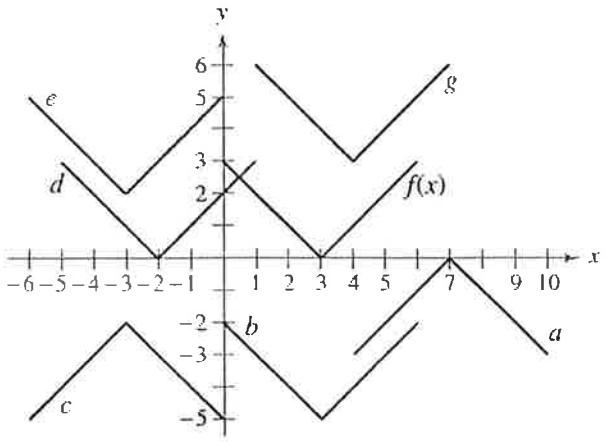
13) $3x^2+11x+6$ 14) $2y^2+13y+11$ 15) $4m^2+8m-5$ 16) $5x^2-17x+6$

Reduce and Rationalize (when necessary):

1) $\sqrt{48}$ _____ 2) $\sqrt{\frac{3}{6}}$ _____ 3) $\frac{\sqrt{5}}{\sqrt{3}}$ _____

4) $\frac{1}{2\sqrt{6}}$ _____ 5) $\frac{2}{2-6i}$ _____ 6) $\frac{4}{-3i}$ _____

In Exercises 49–54, use the graph of $y = f(x)$ to match the function with its graph.



49. $y = f(x + 5)$
50. $y = f(x) - 5$
51. $y = -f(-x) - 2$
52. $y = -f(x - 4)$
53. $y = f(x + 6) + 2$
54. $y = f(x - 1) + 3$

49. _____ 50. _____

51. _____ 52. _____

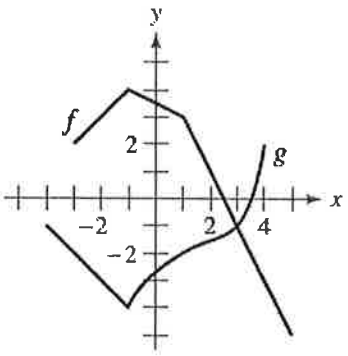
53. _____ 54. _____

65. Use the graphs of f and g to evaluate each expression. If the result is undefined, explain why.

(a) $(f \circ g)(3)$ (b) $g(f(2))$

(c) $g(f(5))$ (d) $(f \circ g)(-3)$

(e) $(g \circ f)(-1)$ (f) $f(g(-1))$



(a) _____ (b) _____

(c) _____ (d) _____

(e) _____ (f) _____

In Exercises 1 and 2, use the graphs of f and g to answer the following.

(a) Identify the domains and ranges of f and g.

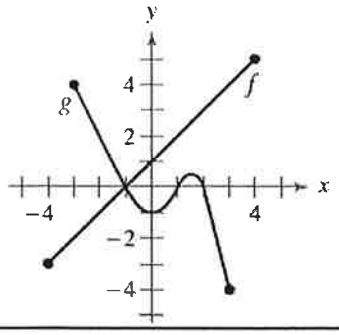
(b) Identify $f(-2)$ and $g(3)$.

(c) For what value(s) of x is $f(x) = g(x)$?

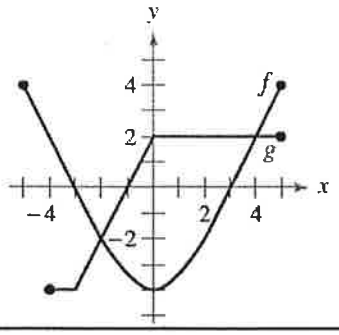
(d) Estimate the solution(s) of $f(x) = 2$.

(e) Estimate the solutions of $g(x) = 0$.

1.



2.



(a) D: _____ R: _____

(b) $f(-2)$ = _____ $g(3)$ = _____

(c) _____

(d) _____

(e) _____

(a) D: _____ R: _____

(b) $f(-2)$ = _____ $g(3)$ = _____

(c) _____

(d) _____

(e) _____