Find domain and range

a) {A B C} is the domain } a, b, c
(1,2,3) is the range

d) domain (1, 1)
range (4, 6)

e (-2, 0) domain
(-6 -6) range

f (-6 -2) domain
(-7, -5) range

: (1/2 0.5) domain
(2/3 3) range

Question 2.

Determine whether each relation is also a function

$y = x + 3$

let $x = 3$.

$y = 6$

This is not a function

$y - x = 5$

$y = 5 + x$.

This is a function

c) $\frac{x}{3} = \frac{3}{3}y^2$ It is a function

$\sqrt{\frac{x}{3}} = \sqrt{y^2}$

$y = \sqrt{\frac{x}{3}}$

3 use vertical line test to determine whether each graph is the graph of a function

a) Graph a is a function since line drawn can intersect only once

b) Graph b is not a function since line drawn intersect twice

c) Graph c is not a function graph. A line drawn can intersect more than once

4 Graph (a)
domain {3, 1, -2}
range {8, 4, -1}

Graph b
domain (0, 7, 9)
range (7, 0, 7)

graph c
domain (4, 0, -4)
range (0, 4, 0)

(5) Find indicated value

$f(x) = x - 2$

$f(3)$ $\quad$ $f(-1)$

$3 - 2$ $\quad$ $-1 - 1$

$= 1$ $\quad$ $= -3$

b)

$g(x) = 3x^2 - 4x + 1$ $\quad$ $g(-2)$

$g(0)$

$= 3(0^2) - 4(0) + 1$ $\quad$ $3(-2)^2 - (4(-2)) + 1$

$= 1$ $\quad$ $12 + 8 + 1$

$= 21$

B.1e.

1. Find the slope of the line given two point

(1, 5) (6, 11)

gradient $= \frac{\Delta y}{\Delta x} = \frac{6}{5}$

$\frac{11-5}{6-1} = \frac{6}{5}$

b) (3, 6) (-2, 9)

$\frac{9-6}{-2-3} = \frac{3}{-5}$ $= \frac{9}{-5}$

c) (3, -1), (4, -5)

$\frac{-5--1}{4-3} = \frac{-4}{1}$ $= -4$

b) Find the slope and the y-intercept of each line

a) $y = x+3$

Slope

$= 1$

b) $y = -4x-1$

-4

c) $-3x+y=9$

$y = 3x+9$

3

d) $x = 3.4$

Let the point be y_1 y_2

$\frac{\Delta y}{\Delta x} = \frac{2-1}{3.4-3.4} = \frac{1}{0}$

∞

e $= y = -\frac{1}{3}x$

Slope

$-\frac{1}{3}$

f) $2x - 7y = 36$

$2x - 36 = 7y$

$\frac{7y}{7} = \frac{2x}{7} - \frac{36}{7}$

$y = \frac{7}{2}x - 4$

Slope $= \frac{7}{4}$

$= \frac{7}{7}$

g) $y - 8 = 0$

$y = 8$

slope ∞

Question 3

find slope

$y = 2x + 60$

slope $= 2$

Meaning the rate of service

60 is the intercept is a content value

b) $y = 117 - 10x$

Intercept $= 117$

slope $= -10$

4) The slope of

$x = 3$

∞

b) $x - 5 = 0$

$x = 5$

slope ∞

c) $y = -4$

Slope ∞

5) Determine whether each pair of lines is parallel, perpendicular or neither

$y = 3x - 4$

$y = 3x + 2$

Line parallel the same gradient

a)

$-2x + 4y = 1$

$\frac{4y}{4} = \frac{1}{4} + \frac{2x}{4}$

$y = \frac{1}{4} + \frac{1}{2}x$

b) $6x + 3y = 3$

$\frac{3y}{3} = \frac{3}{3} - \frac{6x}{3}$

$y = 1 - 2x$

They are neither parallel nor perpendicular

c) $y = 3x + 4$

$y = -3x + 4$

Perpendicular to each other