

Chapter 5 Part I – Worksheet

Dependent and independent variables

Determine which variable is dependent and which is independent in the following relations:

a) $P = 20n + 8$ *P: dependent n: independent*

b) $C = \frac{5}{9}(F - 32)$ *C: dependent F: independent*

c) The relation between the time t of driving and the number of kilometres driven D .*D: dependent t: independent*

d) The relation between the height of a child and the age of the child.

h: dependent age: independent

e) The following relation presented that way:

{(3, isosceles triangle), (3, equilateral triangle),
 (3, right triangle), (3, scalene triangle),
 (4, square), (4, rectangle), (4, rhombus),
 (4, trapezoid), (4, parallelogram),
 (5, pentagon), (6, hexagon)}

*type of shape: dependent**number of sides: indep*

f)

Number of Cans of Juice Purchased, n	Cost, C (\$)
1	2.39
2	4.00
3	6.39
4	8.00
5	10.39
6	12.00

*C: dependent**n: independent*

f)

Fruit	Colour
apple	red
apple	green
blueberry	blue
cherry	red
huckleberry	blue

*Colour: dependent**Fruit: independent*

Domain and Range

Determine the domain and range of the following relations:

a)

{(3, isosceles triangle), (3, equilateral triangle),
 (3, right triangle), (3, scalene triangle),
 (4, square), (4, rectangle), (4, rhombus),
 (4, trapezoid), (4, parallelogram),
 (5, pentagon), (6, hexagon)}

$$D = \{3, 4, 5, 6\}$$

$$R = \{ \text{isosceles triangle, equilateral triangle, right triangle, etc...} \}$$

b)

{(1, 1), (2, 8), (3, 27), (4, 64)}

$$D = \{1, 2, 3, 4\}$$

$$R = \{1, 8, 27, 64\}$$

c)

Number of Cans of Juice Purchased, n	Cost, C (\$)
1	2.39
2	4.00
3	6.39
4	8.00
5	10.39
6	12.00

$$D = \{1, 2, 3, 4, 5, 6\}$$

$$R = \{2.39, 4.00, 6.39, 8.00, 10.39, 12.00\}$$

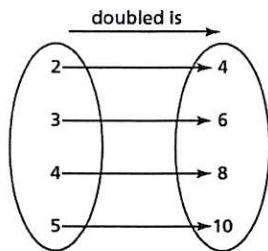
d)

Altitude, A (m)	Temperature, T ($^{\circ}\text{C}$)
610	15.0
1220	11.1
1830	7.1
2440	3.1
3050	-0.8
3660	-4.8

$$D = \{610, 1220, 1830, 2440, 3050, 3660\}$$

$$R = \{4.8, -0.8, 3.1, 7.1, 11.1, 15.0\}$$

e)



$$D = \{2, 3, 4, 5\}$$

$$R = \{4, 6, 8, 10\}$$

$$f = \frac{1}{2\pi} \int_{-\infty}^{\infty} \dots$$

... ..

$$\dots = \dots$$

$$\dots = \dots$$

$$\dots = \dots$$

$$\dots = \dots$$

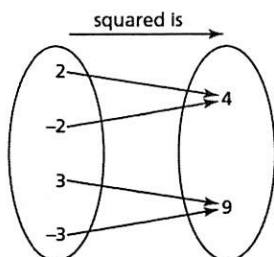
$$\dots = \dots$$

$$\dots = \dots$$

$$\dots = \dots$$



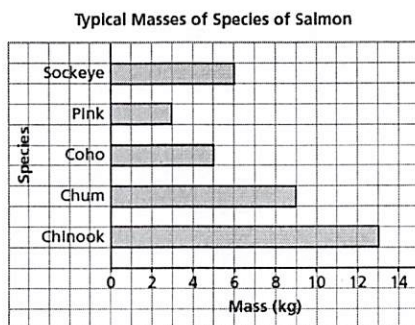
f)



$$D = \{-3, -2, 2, 3\}$$

$$R = \{4, 9\}$$

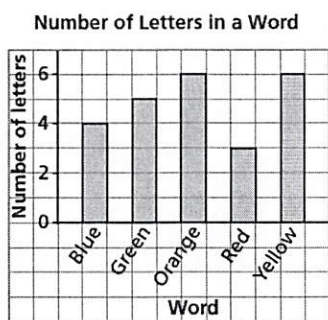
g)



$$D = \{3, 5, 6, 9, 13\}$$

$$R = \{\text{Chinook, Chum, Coho, Pink, Sockeye}\}$$

h)



$$D = \{\text{Blue, Green, Orange, Red, Yellow}\}$$

$$R = \{3, 4, 5, 6\}$$

i) $P = 5n + 5$, where P is the price paid at the cinema and n is the number of friends who came among the 5 friends you invited.

$$D = \{0, 1, 2, 3, 4, 5\}$$

$$R = \{5, 10, 15, 20, 25, 30\}$$

j) The number of pieces of pizza left depending of the number of friends that came to your house (you've only invited 4 friends and you have 4 pizzas cut into 6 pieces each at the start)

$$D = \{0, 1, 2, 3, 4\}$$

$$R = \{0, 1, 2, 3, \dots, 24\}$$



$\frac{1}{2} \pi r^2$

$\frac{1}{2} \pi r^2$

$\frac{1}{2} \pi r^2$

$\frac{1}{2} \pi r^2$

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