Name: _____

ASM Tuition Academy

DIRECT & INVERSE PROPORTION

Instructions:

- Use **black** ink or ball-point pen.
- Answer all questions.
- Answer the questions in the spaces provided
  - there may be more space than you need.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all you're working out.**

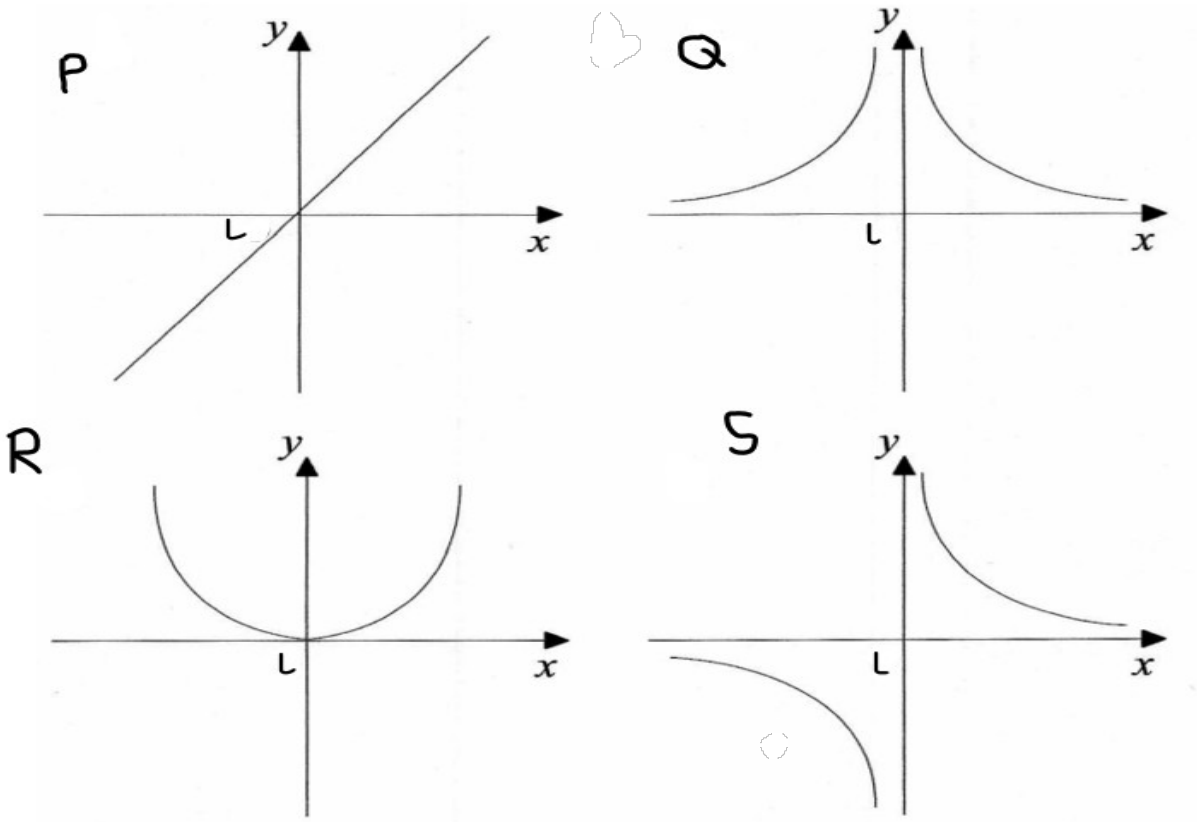
Information:

- The marks for each question are shown in brackets
  - use this as a guide as to how much time to spend on each question.

Advice:

- Read each question carefully before you start to answer it.
- Keep an eye on time.
- Try to answer every question.
- Check your answers if you have time at the end.

1. Following are the four graphs



Match each graph with the statements provided in the table below

Proportionality Relation	Graph
y is directly proportional to x	
y is inversely proportional to x	
y is directly proportional to x^2	
y is inversely proportional to x^2	

(Total for question 1 is 2 marks)

2. a is directly proportional to b

When a = 6, b = 36

Find the value of b when a = 4

.

(Total for question 2 is 3 marks)

3. c is inversely proportional to d

When c = 4, d = 12

Find the value of c when d = 8

(Total for question 3 is 3 marks)

4. e is directly proportional to f

When e = 6, f = 36

Find the value of f when e = 4

(Total for question 4 is 3 marks)

5. g is directly proportional to the square root of h

When g = 20, h = 25

Find the possible values of h when g = 16

(Total for question 5 is 3 marks)

6. y is inversely proportional to x

When y = 16, x = 4

Find the value of y when x = 16

(Total for question 6 is 3 marks)

7. x is inversely proportional to the square root of y

When $x = 12$, $y = 16$

Find the value of x when $y = 64$

(Total for question 7 is 3 marks)

8. y is inversely proportional to the cube of x

When $y = 500$, $x = 0.2$

Find the value of y when $x = 0.5$

(Total for question 8 is 3 marks)

9. x is directly proportional to the cube of y

When $x = 64$, $y = 0.4$

Find the value of y when $x = 512$

(Total for question 9 is 3 marks)

10. The table shows pairs of values for x and y

x	2	3
y	64	144

(i) Tick the correct statement below.

$y \propto x$ _____

$y \propto x^2$ _____

$y \propto x^3$ _____

(ii) Write a formula for y in terms of x

(Total for question 10 is 4 marks)

11. The table shows pairs of values for x and y

x	4	5
y	512	1000

(i) Tick the correct statement below.

$y \propto x$ _____

$y \propto x^2$ _____

$y \propto x^3$ _____

(ii) Write a formula for y in terms of x

_____

(Total for question 11 is 4 marks)