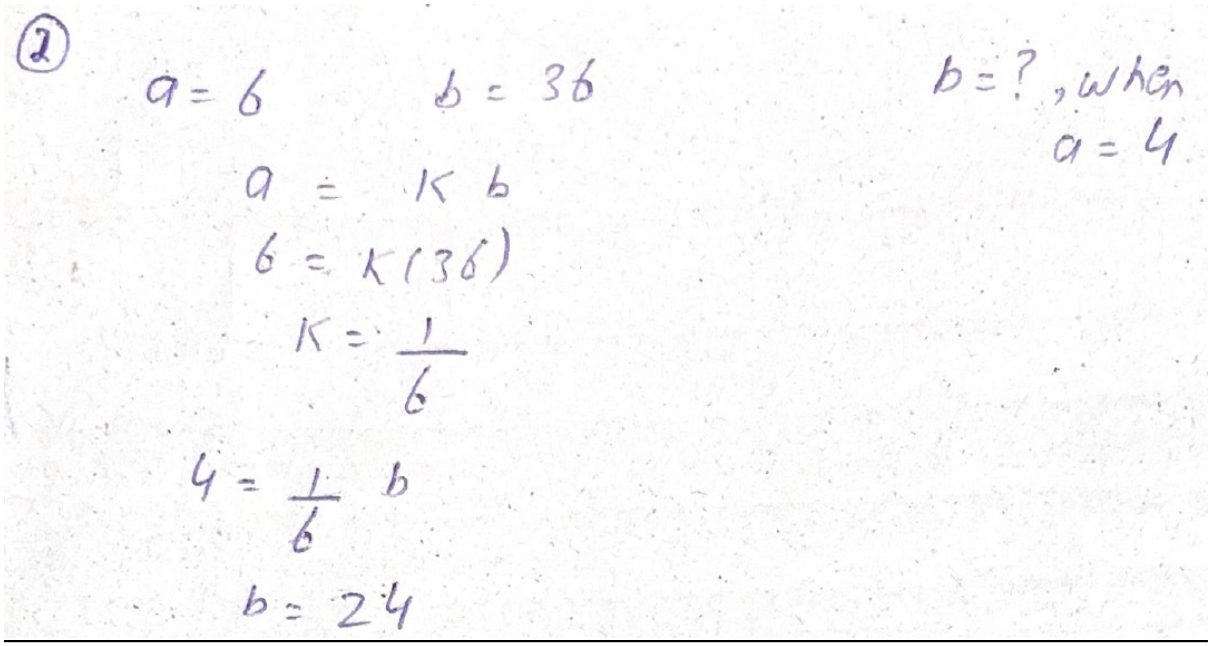
Answers Sheet

DIRECT & INVERSE PROPORTION

1-

Proportionality Relation	Graph
y is directly proportional to x	P
y is inversely proportional to x	S
y is directly proportional to x^2	R
y is inversely proportional to x^2	Q

2-



3-

(3) $c = 4$, $d = 12$, $c = ?$ when $d = 8$

$$c = \frac{K}{d}$$

$$4 = \frac{K}{12}$$

$$K = 48$$

$$c = \frac{48}{8}$$

$$c = 6$$

4-

(4) $e = 6$ $f = 36$, $f = ?$ when $e = 4$

$$e = K.f$$

$$6 = K\ 36$$

$$K = \frac{1}{6}$$

$$4 = \frac{1}{6} f$$

$$f = 24$$

5-

⑤ $g = 20$, $h = 25$, $h = ?$ when $g = 16$

$g = k\sqrt{h}$

$20 = k\sqrt{25}$

$20 = 5k$

$k = 4$

$16 = 4\sqrt{h}$

$4 = \sqrt{h}$

$h = 16$

6-

⑥ $y = 16$ $x = 4$, $y = ?$ when $x = 16$

$y = \frac{k}{x}$

$16 = \frac{k}{4}$

$k = 64$

$y = \frac{64}{16}$

$y = 4$

7-

(7) $x = 12$, $y = 16$, $x = ?$ when $y = 64$

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

$$12 = \frac{K}{4}$$

$$K = 48$$

$$x = \frac{48}{\sqrt{64}}$$

$$x = \frac{48}{8} \Rightarrow x = 6$$

8-

(8) $y = 500$, $x = 0.2$, $y = ?$ when $x = 0.5$

$$y = \frac{K}{x^3}$$

$$500 = \frac{K}{(0.2)^2}$$

$$K = 4$$

$$y = \frac{4}{(0.5)^3}$$

$$y = 32$$

9-

(9) $x = 64 \quad y = 0.4$, find $y = ?$ when $x = 512$

$x = ky^3$

$64 = k(0.4)^3$

$k = 1000$

$512 = 1000\,y^3$

$y^3 = \frac{512}{1000}$

$y^3 = \frac{128}{250}$

$y^3 = \frac{64}{125}$

$y = \frac{4}{5}$

10-

(10)

x	2	3
y	64	144

$y = kx$

$64 = k2$

$k = 32$

and

$144 = k(3)$

$k = 48$

X

$y = kx^2$

$64 = k(2)^2$

$64 = 4k$

$k = 16$

and

$144 = k(3)^2$

$144 = k(9)$

$k = 16$

✓ both k are same

so, answer is $y \propto x^2$

$y = kx^3$

ii) $y = 16x^2$

11-

(11)

x	4	5
y	512	1000

$y = Kx$

$512 = 4K$

$K = 128$

and

$1000 = 5K$

$K = 200$

X

$y = Kx^2$

$512 = 16K$

$K = 32$

and

$1000 = 25K$

$K = 40$

X

$y = Kx^3$

$512 = K(4)^3$

$512 = 64K$

$K = 8$

and

$1000 = K(5)^3$

$1000 = 25K$

$K = 8$ ✓

So, relation is $y \propto x^3$

ii) $y = 8x^3$