

### Algebraic Inverse Proportion

(a)  $y$  is inversely proportional to  $x$ .

When  $x = 8, y = 20$ .

(i) Find an equation for  $y$  in terms of  $x$

(ii) Find the value of  $y$  when  $x = 40$

(b)  $a$  is inversely proportional to  $b$ .

Complete the table of values.

$b$	5	8		32
$a$		10	4	

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$a$		10	4	

(c)  $f$  is inversely proportional to  $g^2$ .

When  $g = 3, f = 100$ .

(i) Find an equation for  $f$  in terms of  $g$

(ii) Find the value of  $f$  when  $g = 5$

(d)  $w$  is inversely proportional to the square of  $t$ . Complete the table of values.

$t$	2	5		25
$w$	250		10	

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(e)  $y$  is inversely proportional to  $x^3$ .

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(f)  $p$  is inversely proportional to  $\sqrt{q}$ .

When  $q = 36, p = 12$ .

(i) Find an equation for  $p$  in terms of  $q$

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(g)  $m$  is inversely proportional to the cube root of  $n$ . When  $n = 27, m = \frac{10}{3}$ .

(i) Find an equation for  $m$  in terms of  $n$

(ii) Find the value of  $n$  when  $m = \frac{5}{4}$

(h)  $y$  is inversely proportional to  $\sqrt[3]{x}$ .

Complete the table of values.

$x$	8		125	
$y$		20	16	10

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