

7 These are the first four terms of a sequence.

9 5 1 −3

(a) Find the next term.

..... [1]

(b) Explain how you worked out your answer.

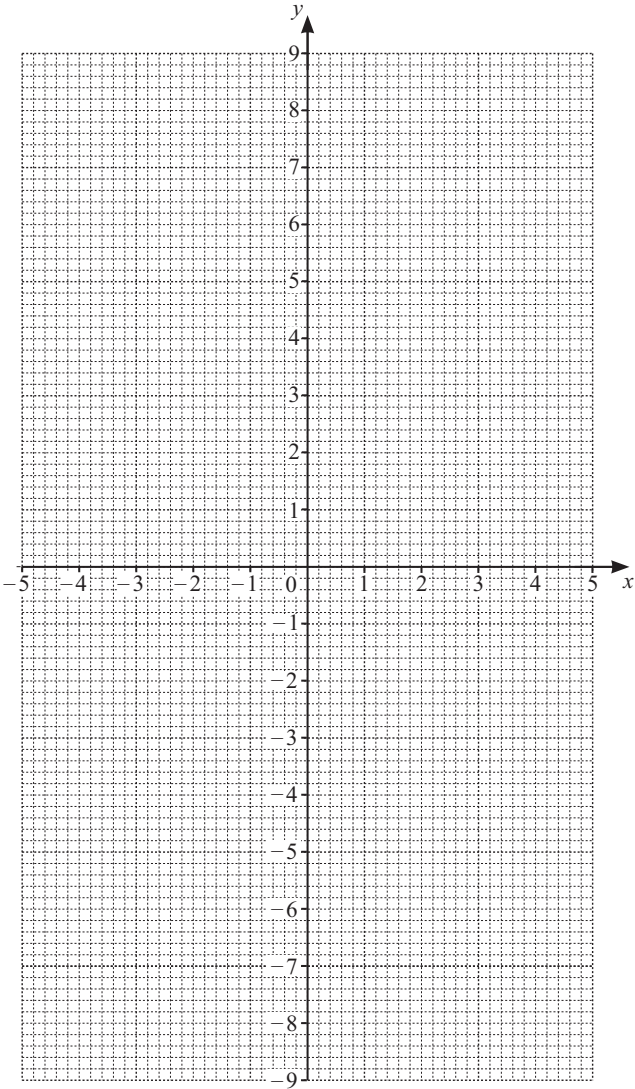
..... [1]

16 (a) Complete the table of values for $y = \frac{7}{x}$.

x	−4.5	−3	−2	−1.5	−1		1	1.5	2	3	4.5
y	−2	−3		−6	−9		9	6	4.5		2

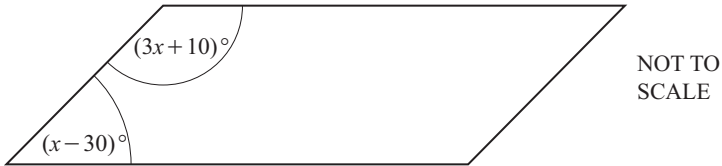
[2]

(b) On the grid, draw the graph of $y = \frac{9}{x}$ for $−4.5 \leq x \leq −1$ and $1 \leq x \leq 4.5$.



[4]

12 The diagram shows a parallelogram.



(a) Use the information in the diagram to write an equation and solve it to find the value of x .

$x =$ [4]

(b) Find the value of the largest angle in this parallelogram.

..... [1]

15 Factorise.

(a) $x^2 - 64$

..... [1]

(b) $5x(x - 2y) + 6(x - 2y)^2$

..... [2]

Name:

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$$f(x) = \frac{x+1}{2x-1}, x \neq \frac{1}{2}$$

$$g(x) = 3x + 4$$

(a) Find

(i) $g(2)$

..... [1]

(ii) $gf(-1)$

..... [2]

(iii) $f^{-1}(x)$.

$$f^{-1}(x) = \text{.....} [3]$$

(b) Solve $f(x) = g(x)$.

$$x = \text{..... or } x = \text{.....} [5]$$