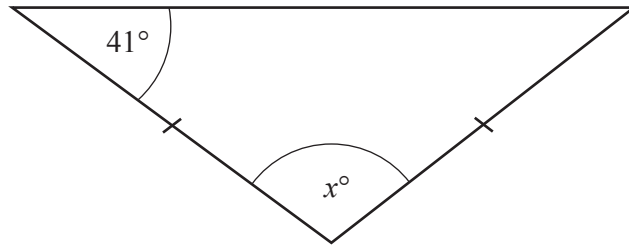


- 1 The diagram shows an isosceles triangle.



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Find the value of x .

$x = \dots\dots\dots$ [2]

- 2 The stem-and-leaf diagram shows the time, in minutes, it takes each of 15 people to complete a race.

1	6 6 7
2	1 3 3 4 5 6 7 7 7
3	0 1 1

Key: 1|6 represents 16 minutes

Find

- (a) the mode

$\dots\dots\dots$ min [1]

- (b) the range

$\dots\dots\dots$ min [1]

- (c) the median.

$\dots\dots\dots$ min [1]

3 Complete these statements.

(a) When $x = \dots\dots\dots$, $x + 3 = 8$.

[1]

(b) When $7y = 63$, $10y = \dots\dots\dots$

[1]

4 The table shows some information about Amir's shopping.

Fruit	Cost per kilogram	Number of kilograms Amir buys	Cost
Oranges	\$2.35	3.2	\$.....
Bananas	\$.....	2.8	\$.....
Total			\$13.54

Complete the table.

[3]

5 Factorise completely.

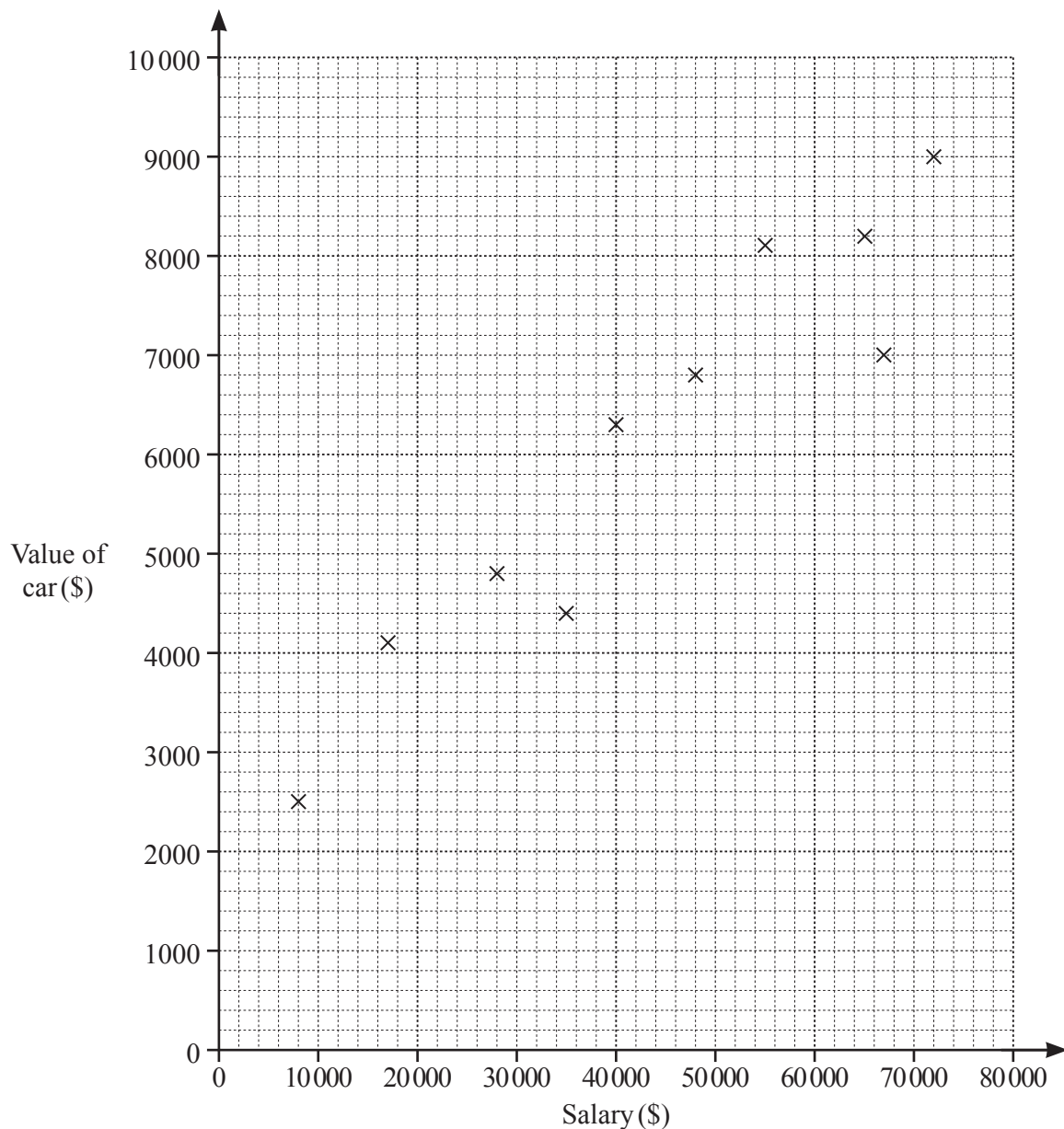
(a) $42mk - 35m$

..... [2]

(b) $h^2 - 144$

..... [1]

- 6 For each of 10 people working in an office, the scatter diagram shows their salary and the value of their car.



- (a) One of these people has a salary of \$28 000.

Find the value of their car.

\$ [1]

- (b) Another person starts to work in the office.
Their salary is \$54 000 and the value of their car is \$6100.

Plot this information on the scatter diagram.

[1]

- (c) What type of correlation is shown in the scatter diagram?

..... [1]

- 7 The exchange rate between Singapore dollars and euros is 1 Singapore dollar = 0.62 euros.

Find the value of 161.20 euros in Singapore dollars.

..... Singapore dollars [1]

- 8 Calculate.

$$7\frac{3}{11} \times 3\frac{3}{10}$$

..... [1]

- 9 Find the highest common factor (HCF) of 140 and 126.

..... [2]

- 10 Simplify.

(a) $n^5 \times n$

..... [1]

(b) $8x^6 \div 2x^2$

..... [2]

(c) $(243y^{20})^{\frac{2}{5}}$

..... [2]

- 11 Solve.

$$4(2x - 3) \geq 43 + 3x$$

..... [3]

- 12 Write $0.\dot{4}\dot{2}$ as a fraction in its simplest form.
You must show all your working.

..... [3]

- 13 A gardener charges \$6.55 for each hour he works plus a fixed charge of \$15.50.

Calculate the total amount he charges when he works 4 hours.

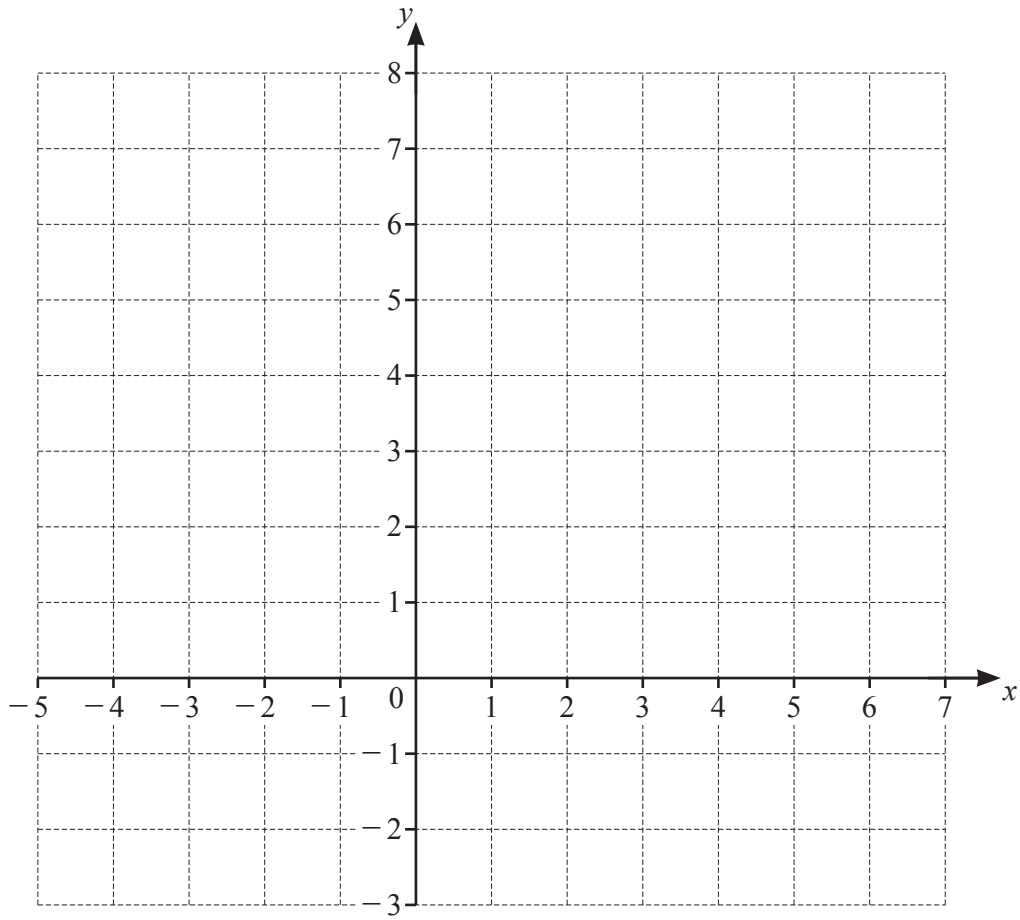
..... [2]

- 14 The temperature at midnight is -4°C .
The temperature at noon is 25°C .

Work out the difference between these two temperatures.

..... [1]

15



By shading the **unwanted** regions of the grid, draw and label the region R which satisfies these inequalities.

$$y > 1$$

$$x \leq 2$$

$$y \geq x + 2$$

[5]

16 $P = 2w + 2h$

$w = 11$ and $h = 9.5$, both correct to 2 significant figures.

Find the lower bound and the upper bound for P .

Lower bound =

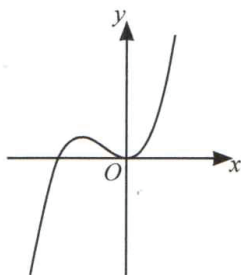
Upper bound = [3]

- 17 Find the coordinates of the point where the line $4x + y = 9$ intersects the curve $y + x^2 = 5$.
You must show all your working.

(..... ,) [5]

- 18 For each sketch, put a ring around the correct type of function shown.

(i)



linear

cubic

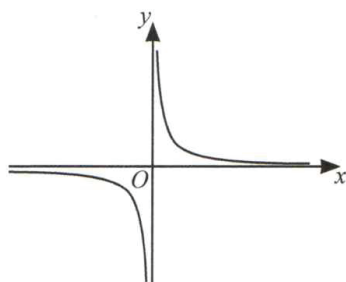
quadratic

reciprocal

exponential

[1]

(ii)



linear

cubic

quadratic

reciprocal

exponential

[1]

19 (a)



Sketch the graph of $y = \cos x$ for $0^\circ \leq x \leq 360^\circ$.

[2]

(b) When $\cos x = 0.21$, find the **reflex** angle x .

..... [2]

20 Write as a single fraction in its simplest form.

(a) $\frac{10x^2 - 60x}{x^2 - x - 30}$

..... [3]

(b) $\frac{7}{x+3} + \frac{5}{8x-1}$

..... [3]

21 Write 24.07839

(a) correct to 2 decimal places

..... [1]

(b) correct to the nearest 10.

..... [1]

22 $v = u + at$

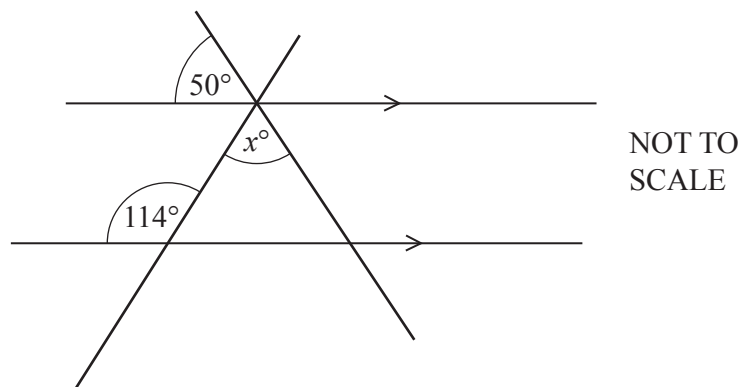
Find the value of v when $u = 30$, $a = -2$ and $t = 7$.

$v =$ [2]

23 Change 62 000 millimetres into kilometres.

..... km [1]

24



The diagram shows two straight lines crossing two parallel lines.

Find the value of x .

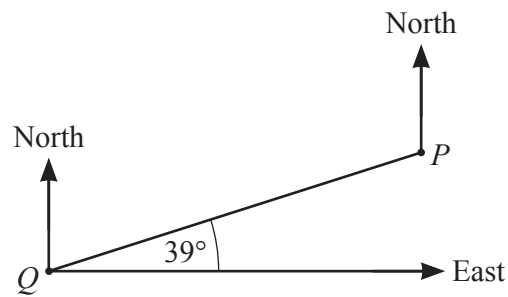
$x =$ [2]

- 25** A company surveys 40 of its employees.
In the survey, 3 employees say they walk to work.
The company has a total of 1240 employees.

Find the expected number of employees in the company who walk to work.

..... [2]

26



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Find the bearing of Q from P .

..... [2]