Name: _____

Year 10 Foundation

End of Year Assessment Revision Resource

Part 1: Topics & Hegarty Maths Clips

Part 2: Practice Questions

Topics & Hegarty Maths Clips

Topic	Strand	Hegarty Maths clips
Rearrange formulae	Algebra	280-86
Linear Graphs	Algebra	199-200, 205 - 213
y = mx + c	Algebra	206-16
Compound Measures	Geometry & Measure	716-19, 734-6, 725-32
Quadratic graphs, turning points and roots	Algebra	251-258
Linear Simultaneous Equations	Algebra	190-195, 218-19
Further graphs	Algebra	299-305
Probability	Probability	351-90
Standard Form	Number	122-129
Simple interest	Number	93
Ratio (further)	Ratio, Proportion & Rates of Change	330-7
Growth & Decay	Ratio, Proportion & Rates of Change	94, 800-11,
Statistics	Statistics	393-4, 413-21, 453-4

Practice Questions

Q1.

Circle the fraction that is equivalent to 4.75

$\frac{15}{4}$ $\frac{19}{4}$ $\frac{21}{4}$ $\frac{23}{4}$

(Total 1 mark)

Q2.

(a) Solve $x + 17 = 12$

_____

$x =$ _____

(1)

(b) Solve $\frac{w}{4} = 12$

_____

_____

$w =$ _____

(1)

(c) Simplify fully $\frac{9m}{12m}$

_____

_____

Answer _____

(2)

(Total 4 marks)

Q3.

Solve $3x = 6$

Circle your answer.

$x = 0.5$ $x = 2$ $x = 3$ $x = 18$

(Total 1 mark)

Q4. CALCULATOR ALLOWED

Greg wants to buy a games console that costs £267.50

He already has £125

He will save £7.50 each week.

In how many weeks will he have saved enough?

Answer _____

(Total 3 marks)

Q5.

Work out $2\frac{1}{8} - \frac{2}{3}$

Answer _____

(Total 3 marks)

Q6.

What is 6.2819 to 2 decimal places?

Circle your answer.

6.2 6.28 6.29 6.3

(Total 1 mark)

Q7.

Work out $10 + (-4)$

Circle your answer.

–14 –6 6 14

(Total 1 mark)

Q8.

(a) Expand $w(w + 6)$

_____

Answer _____

(2)

(b) Factorise fully $8y + 20$

_____

Answer _____

(2)

(Total 4 marks)

Q9.

(a) Simplify fully 56 : 24

_____

_____

_____

Answer _____ : _____

(2)

(b) Write the ratio 5 : 4 in the form n : 1

_____

_____

_____

Answer _____ : _____

(1)

(c) Share £180 in the ratio 1 : 9

Answer £_____ and £_____

(2)

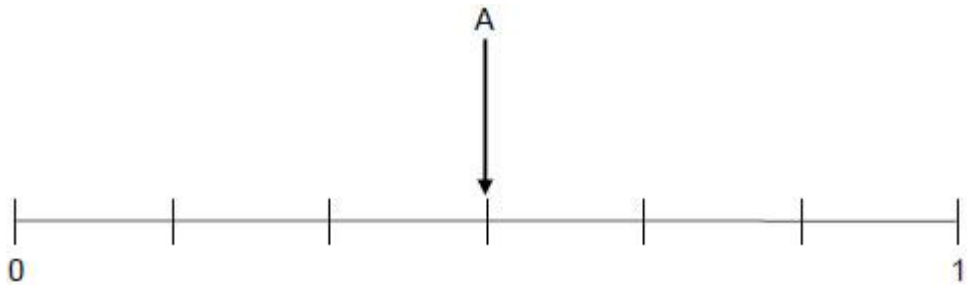
(Total 5 marks)

Q10.

Here are three events for an ordinary fair dice.

A Roll an odd number
B Roll a number greater than 6
C Roll an even number less than 3

Draw and label arrows to show the probabilities of events B and C on the probability scale.

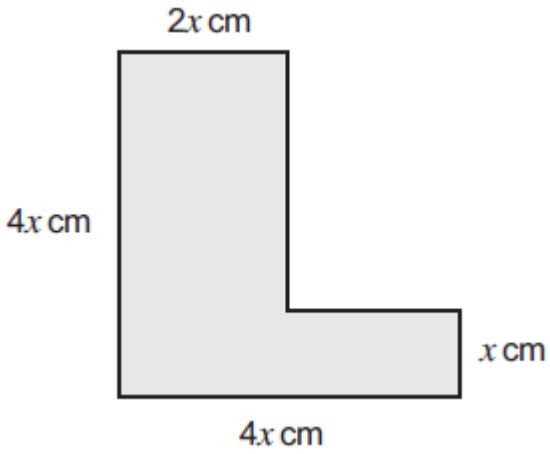


(Total 2 marks)

Q11.

The perimeter of this L-shape is 56 cm.

Not drawn accurately



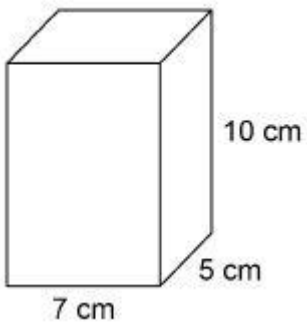
Set up and solve an equation to work out the value of x.

x = _____

(Total 4 marks)

Q12.

Here is a cuboid.



Work out the volume.

Answer _____ cm^3

(Total 2 marks)

Q13.

Factorise fully $2x^2 + 6x$

_____

_____

Answer _____

(Total 2 marks)

Q14.

The height of a tree is 12 metres, correct to the nearest metre.

Circle the error interval.

11.5 m ≤ height < 12.5 m

11.5 m ≤ height ≤ 12.5 m

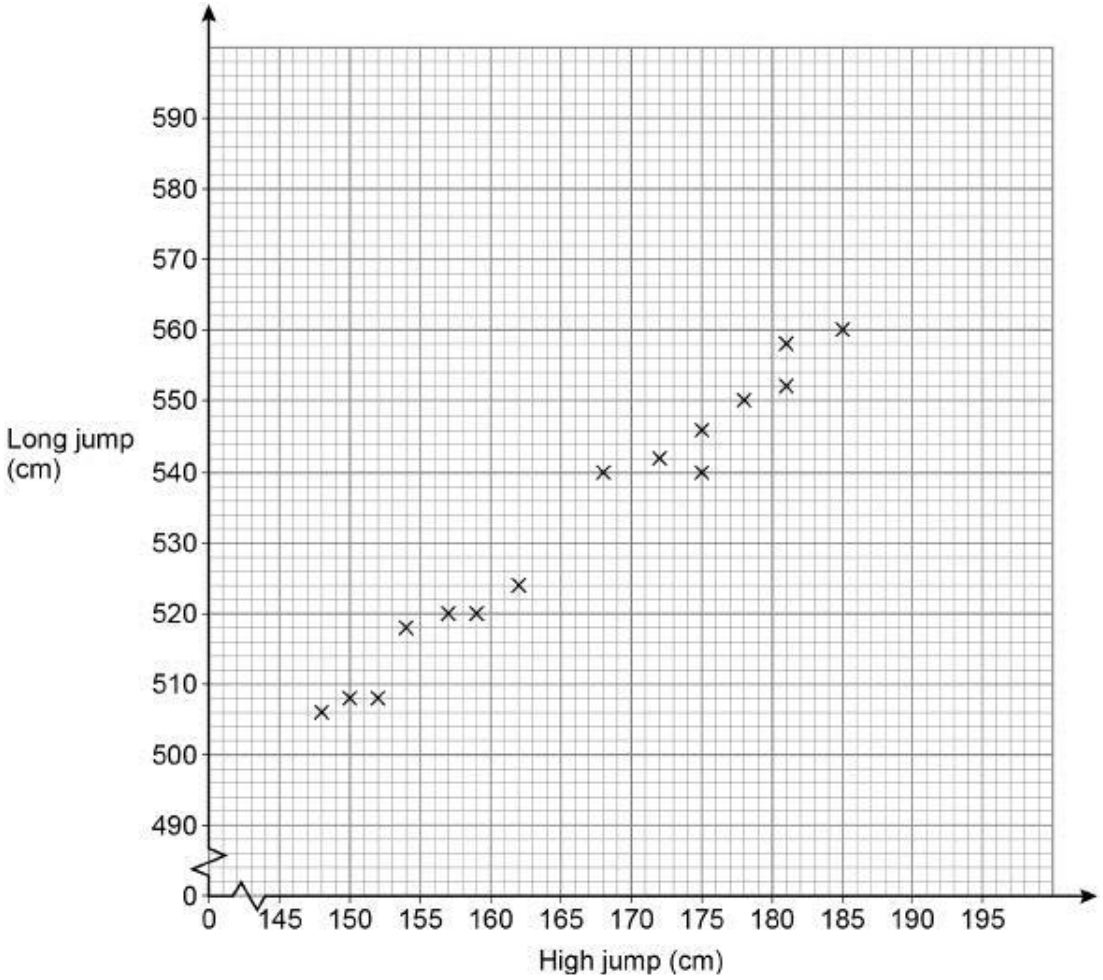
11.5 m < height ≤ 12.5 m

11.5 m < height < 12.5 m

(Total 1 mark)

Q15.

The scatter graph shows the best high jump and the best long jump for 15 boys.



(a) Write down the type of correlation shown.

Answer _____

(1)

(b) Liam has a best high jump of 166 cm

Use a line of best fit to estimate his best long jump.

Answer _____ cm

(2)

(c) Another boy has a best high jump of 195 cm

Give a reason why you should **not** use a line of best fit to estimate his best long jump.

_____

_____

(1)

(Total 4 marks)

Q16. CALCULATOR ALLOWED

Increase 4200 by 38%

Answer _____

(Total 2 marks)

Q17.

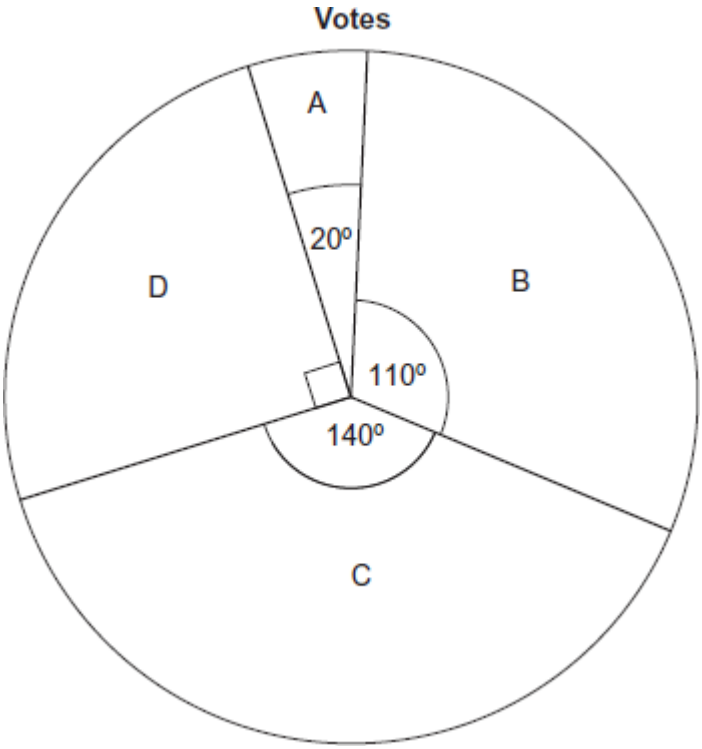
Solve $5x - 2 > 3x + 11$

Answer _____

(Total 2 marks)

Q18.

The pie chart shows information about how people voted in an election.



1800 people voted for D.

How many **more** people voted for C than B?

_____

_____

_____

_____

Answer _____

(Total 3 marks)

Q19.

Given $5y + 4 = ay$

Work out the value of a when $y = 2$

_____

_____

a = _____

(Total 2 marks)

Q20.

Work out $\frac{3}{8} \times 11$

Give your answer as a mixed number.

Answer _____

(Total 2 marks)

Q21. CALCULATOR ALLOWED

Jim wants to buy 10 rolls of wallpaper.

He sees these prices.

Wallpaper	
Single roll	£12.50
Pack of 3 rolls	£34.50
Pack of 5 rolls	£58.75

What is the cheapest price for 10 rolls?

Answer £ _____

(Total 4 marks)

Q22.

Write 360 000 in standard form.

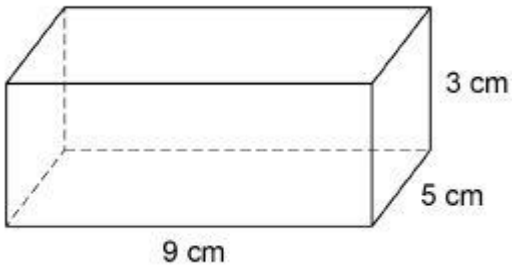
_____

Answer _____

(Total 1 mark)

Q23.

Here is a cuboid.



The two **largest** faces are blue.

The other four faces are green.

Is the total blue area greater than the total green area?

You **must** show your working.

_____

_____

_____

_____

_____

_____

_____

_____

(Total 3 marks)

Q24.

The exterior angle of a regular polygon is 45°

Circle the name of the regular polygon.

pentagon hexagon octagon decagon

(Total 1 mark)

Q25.

The first 4 terms of a linear sequence are

3 11 19 27

Circle the expression for the nth term.

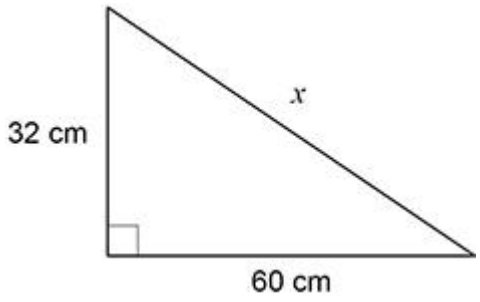
$8 - 5n$ $n + 8$ $8n + 3$ $8n - 5$

(Total 1 mark)

Q26. CALCULATOR ALLOWED

Use Pythagoras' theorem to work out the value of x.

Not drawn accurately



Answer _____ cm

(Total 3 marks)

Q27. CALCULATOR ALLOWED

David invests £5000 in a savings account.
The account pays 3.2% compound interest per year.

Work out the value of his investment after 3 years.
Give your answer to the nearest penny.

Answer £ _____

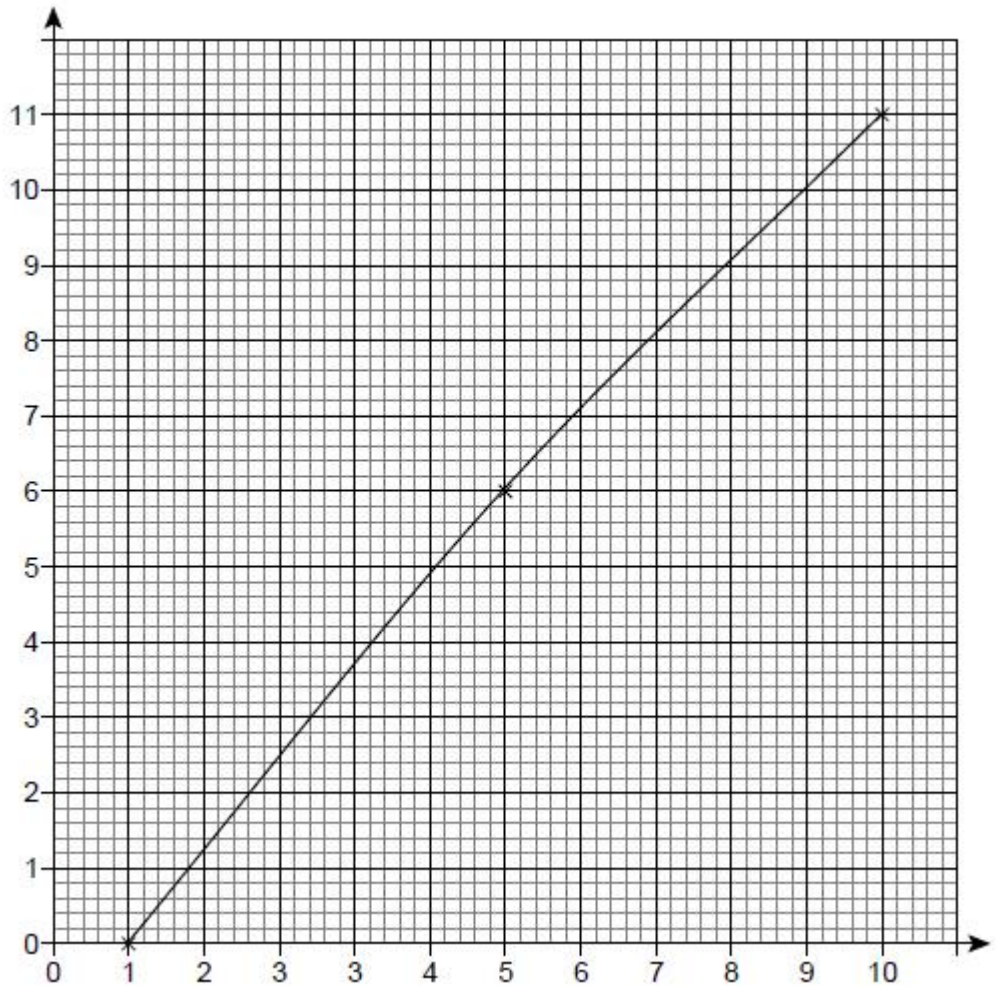
(Total 4 marks)

Q28.

Guy is using this table of results to draw the graph of $y = x + 1$ for values of x from 0 to 10

x	0	5	10
y	1	6	11

This is his graph.



Write down **three** different mistakes he has made.

Mistake 1 _____

Mistake 2 _____

Mistake 3 _____

(Total 3 marks)

Q29.

Expand and simplify $3(2x - 5) + 4(2x + 1)$

Answer _____

(Total 2 marks)

Q30.

Solve the simultaneous equations

$7x + 2y = 36$

$3x + 2y = 16$

$x =$ _____ $y =$ _____

(Total 3 marks)

Q31.

Rearrange $x = 2y - 6$ to make y the subject.

Answer _____

(Total 2 marks)

Q32.

Written as the product of its prime factors

$$672 = 2^5 \times 3 \times 7$$

(a) Write 252 as the product of its prime factors.

Answer _____

(2)

(b) Work out the value of the highest common factor of 672 and 252

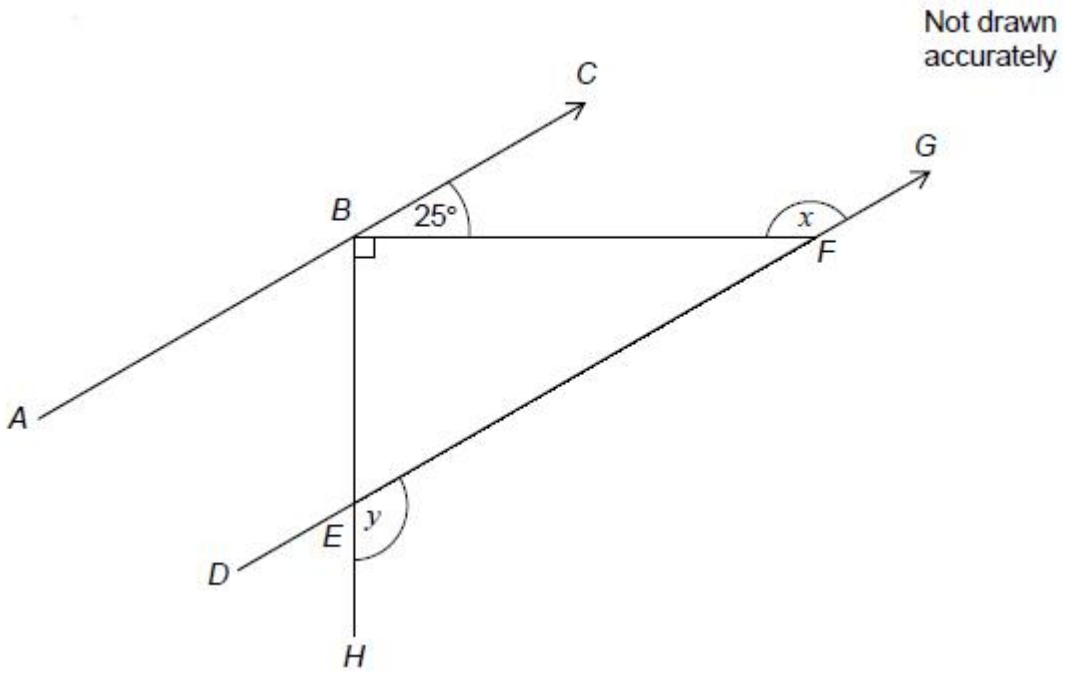
Answer _____

(1)

(Total 3 marks)

Q33.

ABC and *DEFG* are parallel lines.
BEH is a straight line.



(a) Work out the size of angle x.

_____

Answer _____degrees

(1)

(b) Work out the size of angle y.
You **must** show your working, which may be on the diagram.

_____

_____

_____

_____

Answer _____degrees

(2)

(Total 3 marks)

Q34. CALCULATOR ALLOWED

The table shows information about journeys A and B.

Complete the table.

	Distance travelled	Time taken	Average speed
A	32 miles		64 mph
B		1 hour 20 minutes	42 mph

(Total 2 marks)

Q35.

John goes to work by car or by train.

(a) The probability that John goes by car is 0.4

Work out the probability he goes by train.

Answer _____

(1)

(b) John works for 200 days each year.

How many days would you expect him to go to work by car?

Answer _____

(2)

(c) Ben also goes to work by car or by train.
Out of 200 days, he went by car on 150 days.

Work out the relative frequency that Ben goes to work by car.

Answer _____

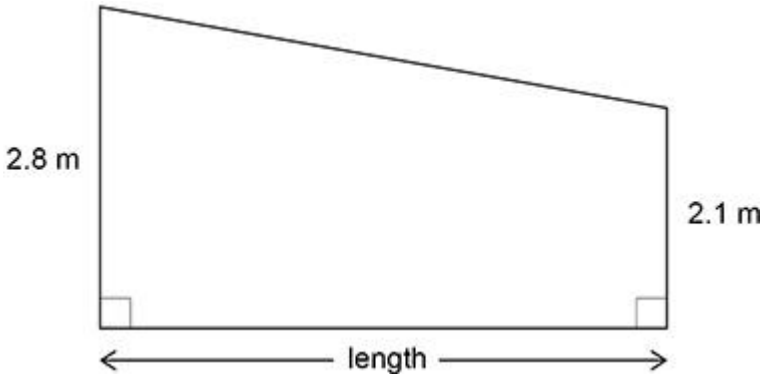
(1)

(Total 4 marks)

Q36. CALCULATOR ALLOWED

The diagram shows a wall.

Not drawn accurately



The area of the wall is 39.2 m^2

Work out the length of the wall.

Answer _____ m

(Total 3 marks)

Q37.

Solve $6x - 11 = 13$

$x =$ _____

(Total 2 marks)

Q38.

(a) Factorise $x^2 - 9x + 20$

Answer _____

(2)

(b) Solve $x^2 - 9x + 20 = 0$

Answer _____

(1)

(Total 3 marks)

Answers

1	$\frac{19}{4}$
2	(a) –5 (b) 48 (c) $\frac{3}{4}$ or 0.75
3	$x = 2$
4	19
5	$\frac{35}{24}$ or $1\frac{11}{24}$ *or equivalent answer*
6	6.28
7	6
8	(a) $w^2 + 6w$ (b) $4(2y + 5)$
9	(a) 7 : 3 (b) 1.25 : 1 (c) 18 and 162
10	Arrow at 0 labelled B Arrow at $\frac{1}{6}$ labelled C
11	3.5 or $\frac{7}{2}$ or $3\frac{1}{2}$
12	350
13	$2x(x + 3)$
14	11.5 m ≤ height < 12.5 m

15	(a) Positive (b) Straight line of best fit passing through (150, [504, 512]) and (180, [550, 558]) (c) Reason examples: *195 cm is outside the range of values* *You cannot extrapolate*
16	5796
17	$x > 6.5$
18	600
19	7
20	$\frac{33}{8}$ **or** $4\frac{1}{8}$
21	116(.00)
22	3.6×10^5
23	90 and 84 and Yes or 45 and 42 and Yes
24	octagon
25	$8n - 5$
26	68
27	5495.523…

28	3 different mistakes identified *B1 for each different mistake identified from* *It should be a straight line* *Point (0, 1) plotted incorrectly* *Two 3s on x-axis* *Axes not labelled* *Line not labelled (y = x + 1)*
29	$14x - 11$
30	$y = 0.5$ $x = 5$
31	$y = \frac{x+6}{2}$ or $y = \frac{x}{2} + 3$ or $y = \frac{1}{2}(x+6)$
32	(a) $2 \times 2 \times 3 \times 3 \times 7$ or $2^2 \times 3^2 \times 7$ (b) 84
33	(a) 155 (b) 115
34	30 minutes or $\frac{1}{2}$ hour 56 (miles)
35	(a) 0.6 or 60% or $\frac{6}{10}$ (b) 80 (c) 0.75 or 75% or $\frac{150}{200}$
36	16
37	4
38	(a) $(x - 4)(x - 5)$ (b) 4 and 5