8 This is the list of ingredients needed to make 8 peanut shortbread slices.

Peanut shortbread – makes 8 slices

250 g plain flour
150 g butter
100 g caster sugar
50 g chopped peanuts
50 ml smooth peanut butter
50 ml milk

Work out the amounts needed to make 20 peanut shortbread slices.

.....g plain flour

.....g butter

.....g caster sugar

.....g chopped peanuts

.....ml smooth peanut butter

.....ml milk [3]

3

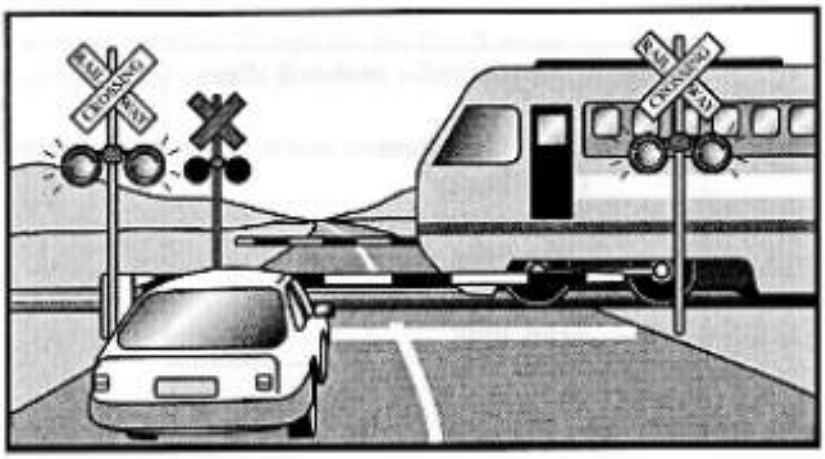
9 Calculate, giving your answer correct to 2 decimal places.

$$\frac{3{\cdot}82^2}{3{\cdot}41 - 1{\cdot}25}$$

.....[2]

2

10 Jana often has to cross a railway at a level crossing.



(a) Over a period of time Jana kept a record of whether or not she had to stop at the crossing.

	Frequency
Stop	13
Not stop	27

Jana uses the crossing 500 times in a year.
About how many times will she expect to stop?

(a) .....[2]

(b) The level crossing is monitored for a day.
This table summarises the length of time that the level crossing is closed.

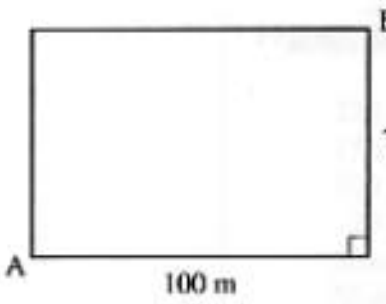
Time (t minutes)	Frequency
$0 < t \leqslant 1$	15
$1 < t \leqslant 2$	18
$2 < t \leqslant 3$	24
$3 < t \leqslant 4$	8

Calculate an estimate of the mean time that the level crossing is closed.

(b) .....minutes [4]

6

11 A football pitch measures 100 m by 72 m.



Mike walks along the edge of the pitch from A to B.
Alan walks diagonally across the pitch from A to B.

Calculate how much further Mike walks than Alan.

.....m [3]

3

12 Find all the integer values of n which satisfy

$$-15 < 5n \leq 20.$$

.....[3]

3

13 Anna drove 35 miles from Southampton to Basingstoke.

She drove at an average speed of 20 mph for the first 5 miles
and then at an average speed of 60 mph for the remaining 30 miles.

Calculate her average speed for the whole journey.

.....mph [3]

3

14 This formula gives the stopping distance, d metres, for a car travelling at x mph.

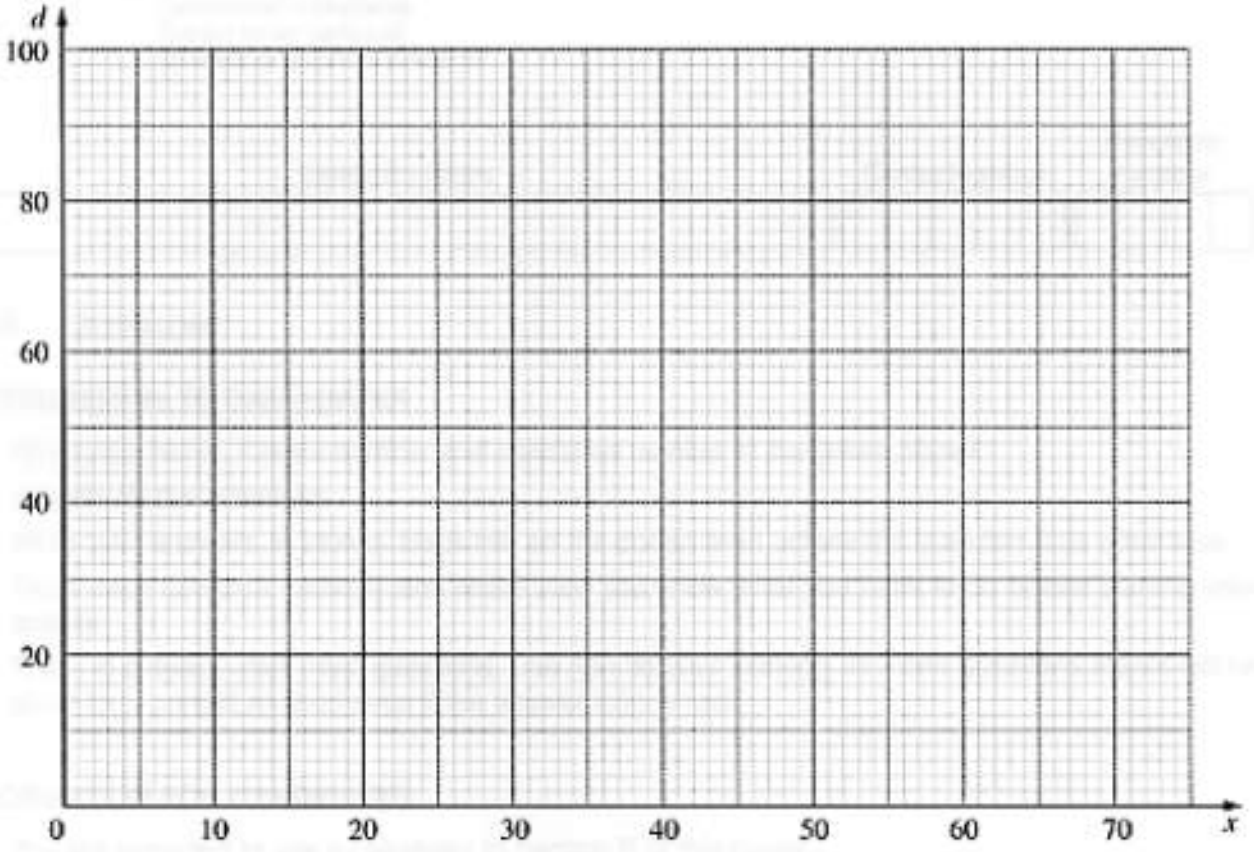
$$d = \frac{3x(20 + x)}{200}$$

(a) Complete this table.

x	0	10	20	30	40	50	60	70
d	0	4·5		22·5	36	52·5		94·5

[2]

(b) Draw the graph of $d = \frac{3x(20 + x)}{200}$.



[2]

(c) Use the graph to estimate the stopping distance when a car is travelling at 56 mph.

(c).....m [1]

5