

## Workout

Question 1:

- (a) A stratified sample keeps the sample in the same proportions as the population. As there are a lot more Year 9 students than Year 10 or 11 students, a stratified sample ensures a representative sample.
- (b) Year 9 - 20 students  
Year 10 - 10 students  
Year 11 - 10 students

Question 2:

Cats - 3  
Dogs - 5  
Rabbits - 2

Question 3:

0 - 20 years - 14 people  
21 - 40 years - 16 people  
41 - 60 years - 8 people  
Over 60 - 2 people

Question 4:

Spain - 8 tourists  
Portugal - 11 tourists  
France - 17 tourists  
Italy - 14 tourists

Question 5:

Walk - 21  
Car - 6  
Bus - 14  
Train - 2  
Cycle - 5

Question 6:

Production - 5  
Dispatch - 2  
Admin - 3

OR

Production - 6  
Dispatch - 2  
Admin - 2

Question 7:

A - 10  
B - 3  
C - 11  
D - 6

also accept

A - 10  
B - 2  
C - 11  
D - 7

Question 8:

Horror - 14  
Comedy - 44  
Action - 9  
Other - 33

also accept

Horror - 14  
Comedy - 44  
Action - 8  
Other - 34

Question 9:

Dark - 66  
Milk - 95  
White - 39

also accept

Dark - 66      Dark - 65  
Milk - 94      Milk - 95  
White - 40      White - 40

Question 10:

Junior - 13  
Adult - 21  
Senior - 6

also accept

Junior - 14      Junior - 13  
Adult - 21      Adult - 22  
Senior - 5      Senior - 5

Question 11:

under 18 - 5  
18 to 40 - 12  
41 to 60 - 25  
over 60 - 8

also accept

under 18 - 5      under 18 - 4  
18 to 40 - 12      18 to 40 - 12  
41 to 60 - 24      41 to 60 - 25  
over 60 - 9      over 60 - 9

Question 12:

Car - 78

Van - 16

Motorbike - 45

Caravan - 11

### Apply

Question 1(a): A sample that is representative of the population by each group being in the same proportions.

1(b): 7 girls (accept 6)

1(c): List the 95 year 9 girls alphabetically and use a random number generator to select 7 numbers at random between 1 and 95 (inclusively). If the same number is selected twice, pick a new number.

Alternatively... place all 95 names in a hat and pick out 7.

Question 2:

	Junior	18 - 40	41 - 60	Senior
Number of members	40	110	115	35
Number in sample	8	22	23	7

Question 3:

Country	France	Spain	Turkey	UK
Number of stamps	848	320	112	1120
Number in sample	53	20	7	70

Question 4:  $\frac{119}{190}$