

## N5 Applications Extended Practice Test 2

**Q1.** Joseph invests £4500 in a bank that pays 6% interest per annum.

If Joseph does not touch the money in the bank, how much interest will he have gained after 3 years?

Give your answer to the nearest penny.

**Q2.** Jane bought a painting in an auction for £32 250.

Unfortunately the painting depreciated in value by 7% each year.

Calculate how much the painting was worth after 2 years.

Give your answer to 3 significant figures.

**Q3.** 30 people were stopped in the street and asked what age they were. The results are shown in the stem and leaf diagram below.

1	2 5 7	<u>Key</u>
2	1 1 6 9	
3	0 3 4 7 8 8	n = 30
4	0 0 2 5 8 9 9	3   4 = 34 years old
5	1 3 4 6 7	
6	4 5 8 8	
7	3	

(a) Calculate the lower quartile, median and upper quartile.

(b) Show this information in a box plot.

(c) Calculate the semi-interquartile range.

**Q4.** The weights of 6 plums are

40.5g      37.8g      42.1g      35.0g      46.3g      41.6g

(a) Calculate the mean and standard deviation.

The weights of 6 apples are

140.5g      137.8g      142.1g      135.0g      146.3g      141.6g

(b) **Write down** the mean and standard deviation.

**Q5.** Kevin was asked to keep a record of how many text messages he sent each day in September.

The results are shown below.

6	9	4	10	3	5	5	7	8	3
8	8	4	11	6	8	9	5	3	3
6	9	10	5	7	4	8	6	9	3

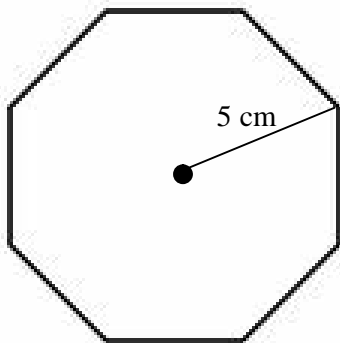
**(a)** Complete the cumulative frequency table on the worksheet provided.

Number of text messages	Frequency	Cumulative Frequency
3		
4		
5		
6		
7		
8		
9		
10		
11		

**(b)** What is the probability that Kevin sends more than 7 texts messages on any one day?

Give your answer in its simplest form.

**Q6.** The distance from the centre of a regular octagon to one of its vertices is 5 cm. Calculate the area of the octagon



**Q7.** 120 people were asked their favourite type of food. The results are shown below.

Type of Food	Number of People
Italian	23
Chinese	40
Indian	21
British	17
Fast Food	19

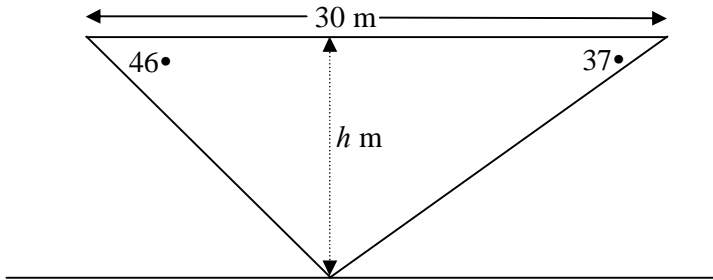
Use the information shown to construct a pie chart on the worksheet provided.

**Q8.** Two security cameras are positioned on a beam in a warehouse 30 metres apart.

One camera has an angle of depression of  $37^\circ$  and the other camera has an angle of depression of  $46^\circ$ .

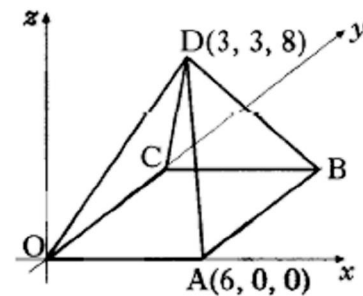
Calculate the height,  $h$  metres, of the beam above the ground.

**Do not use scale drawing.**



**Q9.** Express as a single fraction in its simplest form  $\frac{4}{y^2} \div \frac{12a}{y}$

**Q10.** The diagram shows a square-based pyramid of height 8 units. Square OABC has a side length of 6 units. The coordinates of A and D are  $(6, 0, 0)$  and  $(3, 3, 8)$ . C lies on the  $y$ -axis.



Write down the coordinates of B.

*End of question paper*