(1) Bob buys 40 plants for £72.
One fifth of the plants have to be thrown away immediately due to them being in a poor state.
Bob splits the remaining plants into large plants and small plants.
The ratio of large plants to small plants is 1:3
He sells the large plants for £4 and the small plants for £2.
Will Bob make a profit if he sells all of the remaining plants? If so, how much?

(2) Town A is on a bearing of 290º from Town B.
The distance from Town A to Town B is 12 miles.
(a) Find the bearing of Town B from Town A.
Freda cycles from Town B to Town A.
She leaves at 10:32am and arrives at 11:17am without taking a break.
(b) Find her average speed in miles per hour for the journey from Town B to Town A.

(3) Ranjita is making metal pendants. She has designed the pendant such that it's in the shape of a rectangle with a triangle on the top. The pendant will have a thickness of 5mm.
The design is shown below.
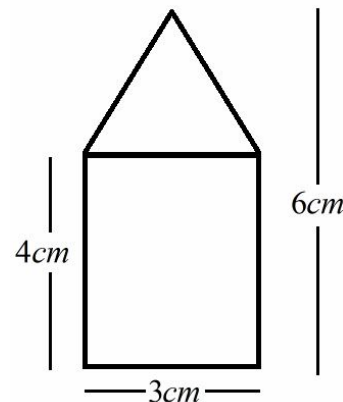
The price of the metal she is using is £2.50 for a $1cm^3$. Find the cost of making 4 pendants.
You may assume there is no waste in the production process.

(4) Kelly and Kevin are both sitting the same exam at school.
The exam consists of 5 papers.
Each paper is out of 100 marks.
Kevin has bet Kelly that his average score will be at least 10 marks per paper higher than hers.
The table below shows the scores for the first 4 papers for Kelly and Kevin.

	Paper 1	Paper 2	Paper 3	Paper 4
Kelly	48	53	73	54
Kevin	82	86	91	67

Kevin doesn't know what score Kelly scored in the 5th paper before he sits his 5th paper.
What is the minimum score Kevin must get in the 5th paper to ensure he wins the bet?

(5) In a factory the ratio of men to woman is 2:3
The ratio of right handed men to left handed men is 7:3.
The ratio of right handed women to left handed women is 11:1
What proportion of the people working in the factory are right handed?

(6) The two Russian Dolls shown below are mathematically similar.

Janet wants to paint the smaller of the Russian Dolls.
She knows the larger doll costs £2.56 to paint. Find the cost of painting the smaller doll.

(7) The diagram below shows part of a circle with centre O.
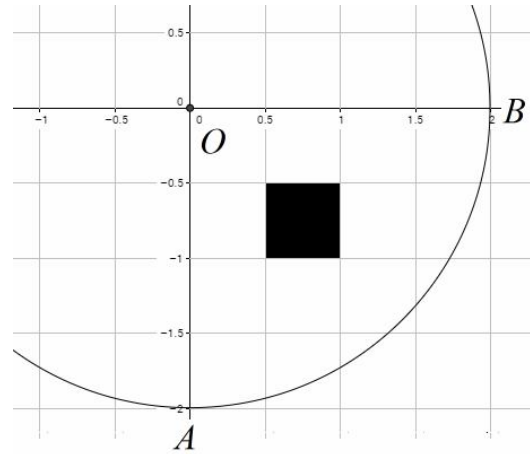
The sector AOB has a black square in.
Find what percentage of the sector AOB is taken up by the black square giving your answer to two decimal places.

(8) Part of a regular polygon is shown below.
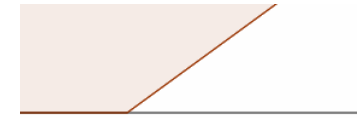
The exterior angle of the polygon shown is $(7x+1)^{o}$.

The interior angle shown is $(28x+4)^{o}$.

Name the polygon clearly showing how you found your answer.