

N5 Applications Extended Practice Test 1

Q1. Amanda bought a house for £90 000. During that year its value increased by 15%. At the end of the second year its value was £111780. By what percentage did it appreciate in the second year?

Q2. Steve bought some shares 3 years ago for £2100. Unfortunately he made a bad investment and the value of the shares is depreciating at the rate of 11.5% per annum. How much are his shares worth now? Give your answer to the nearest £.

Q3. (a) A tester on a production line weighs the contents of cereal packets. In a sample of six packets the weights in grams were

135 137 133 140 142 135

Use appropriate formulae to calculate the mean and standard deviation.

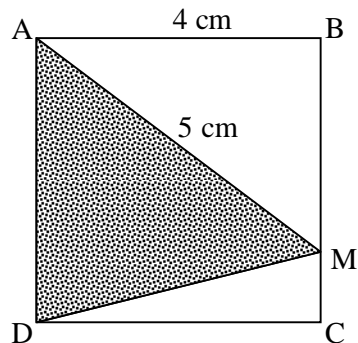
Show all your working clearly.

(b) On a second production line, a sample of 6 packets gives a mean of 139 and a standard deviation of 4.8.

Compare the two production lines?

Q4. A triangle AMD is cut from square ABCD, which has side 4 cm.

If the area of triangle AMD is 8 cm^2 , calculate the size of angle DAM.

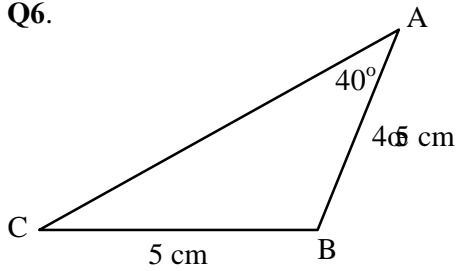


Q5. The table shows the heights in metres in the high jump competition for the last eleven Olympic Games:

2008	2005	2004	2000	1996	1992
2004	2000	1996	1992	1988	

Use this data to construct a box plot.

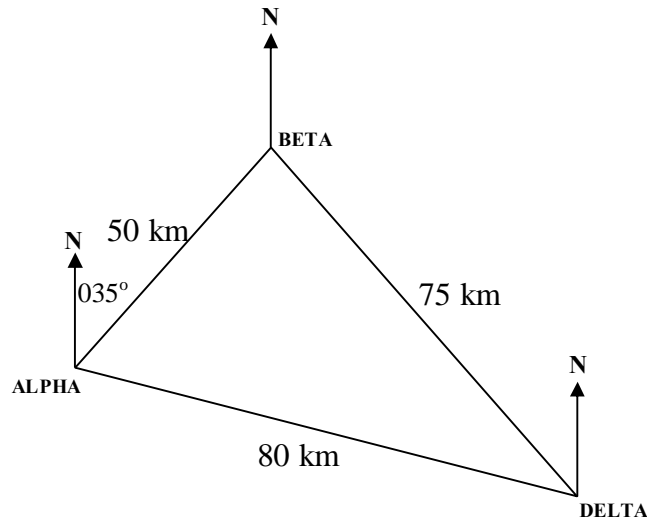
Q6.



In triangle ABC, AB is 4 cm, BC is 5 cm and angle BAC is 40°.

Calculate the size of angle ABC.

Q7. The diagram below shows the positions of three radar stations Alpha, Beta and Delta. The bearing of Beta from Alpha is 035°.



Calculate the bearing of Delta from Alpha.

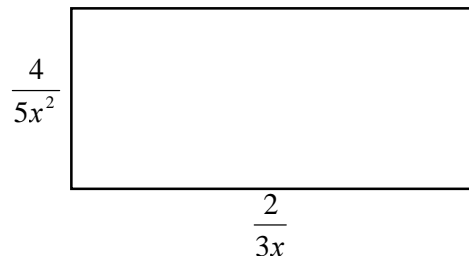
Q8. (a) Simplify the following fraction

$$\frac{4a^2 - 121}{2a^2 - 3a - 44}$$

(b) Express as a single fraction in its simplest form

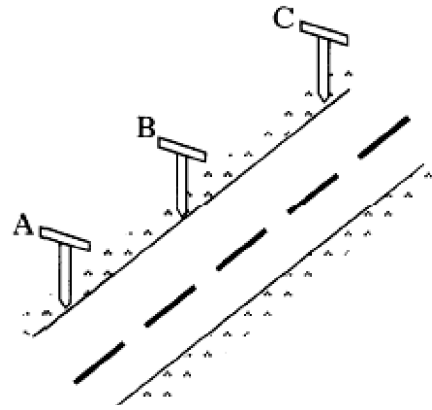
$$\frac{3x}{2a^2} \div \frac{6x}{a}$$

Q9. The diagram shows a rectangle. Find an expression for the perimeter of the rectangle and express it as a single fraction.



Q10. Roadmakers look along the tops of a set of T-rods to ensure that straight sections of road are being created. Relative to suitable axes the top left corners of the T-rods are the points $A(-8, -10, -2)$, $B(-2, -1, 1)$ and $C(6, 11, 5)$.

Determine whether or not the section of road ABC has been built in a straight line.



End of question paper