QT Quick Test - Grade 6A

Calculator

1. Prove algebraically that the recurring decimal $0.\dot{1}2\dot{6}$ can be written as $\frac{14}{111}$ (2 marks)

2. Find the value of $125^{-\frac{2}{3}}$ (2 marks)

3. Find the value $\sqrt[4]{2\ x\ 128\ x\ 10^{12}}$ (2 marks)

4. There are 12 teams in a table tennis league. Each team will play against each other. Work out the number of matches that will take place. (2 marks)

QT Quick Test - Grade 6A

Calculator

5. Varsha invests £3500 in a savings account. The introductory rate for the first year is 2%. She will then receive $x\%$ for the next two years. At the end of 3 years Varsha has £3677.90. Work out the value of x to one decimal place. (3 marks)

6. The number of bacteria in a sample increases by $x\%$ every hour. The population is expected to double in 4 hours. Work out the value of x giving your answer to 3 significant figures. (3 marks)

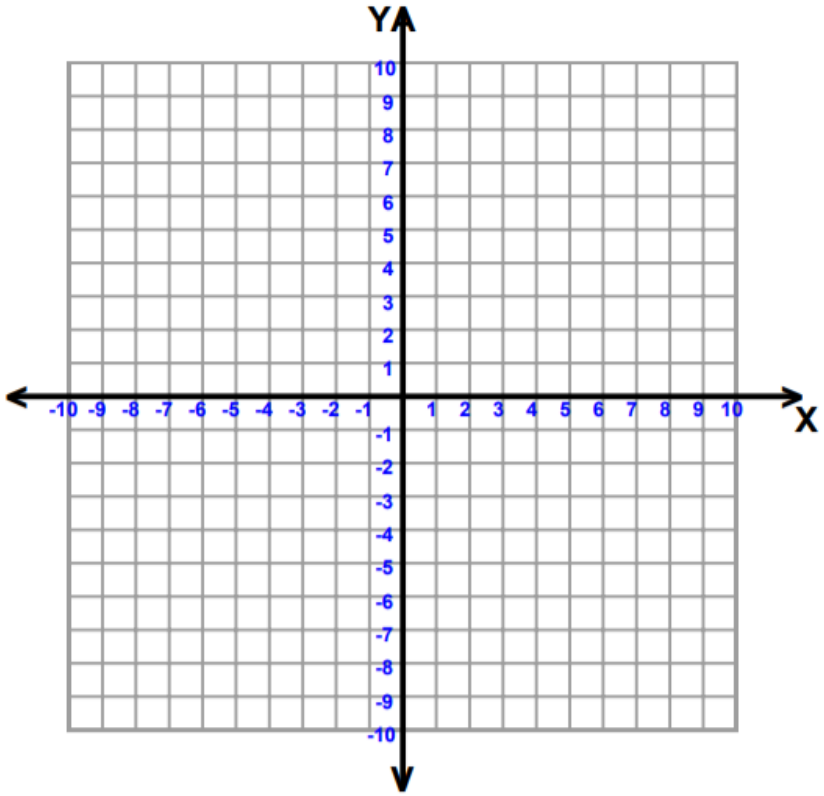
7. Line A passes through the points (-2, 0) and (2, 10). Line B is parallel to A, and passes through (6, 7). Find the equation of line B. (3 marks)

QT Quick Test - Grade 6A

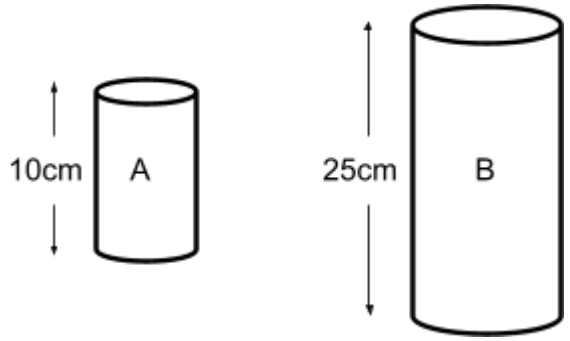
Calculator

8. On the grid, shade the region that satisfies these inequalities

$x < 3$ $y \geq -3$ $y \leq 3x - 1$ (3 marks)



9. Cylinder A and cylinder B are mathematically similar. The height of cylinder A is 10cm and the height of cylinder B is 25cm. The volume of cylinder B is 75cm^3. Calculate the volume of cylinder A. (3 marks)



QT Quick Test - Grade 6A

Calculator

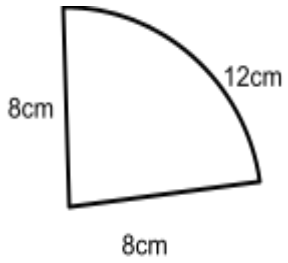
10. Mrs Jones recorded the test results of the students in her maths group. Here are the results: (3 marks)

54 74 50 51 75 95 62 63 56 76 70

(a) Work out the range

(b) Work out the interquartile range

11. The diagram shows the sector of a circle, centre O, radius 8cm. The arc length is 12cm. Calculate the area of the sector. (4 marks)



(Total 30 marks)