SQA Exams

Mathematics

Credit past paper type questions
Homework #8

Show all working. State answers to 1 decimal place where appropriate.
Use your Outline Course notes© for help.

Non-calculator section

1. Evaluate: $6.28 - 1.6 \times 4$

2. Evaluate: $2\frac{1}{3} \div \frac{5}{6}$

3. Solve the inequality $7 - x > 3(x + 1)$

4. a) Simplify the expression $\sqrt{12} + \sqrt{27}$ b) Express $y^5 \times (y^2)^{-6}$ in its simplest form.

5. Two functions are defined by $f(x) = x^2 + 5x$ and $g(x) = 3x + 3$. Solve $f(x) = g(x)$.

Calculator section

6. a) 3 apples and 4 oranges cost = £1.98. Write down an algebraic equation to illustrate this.
   b) 6 apples and 3 oranges cost = £2.46. Write down an algebraic equation to illustrate this.
   c) Find the cost of 4 apples and 2 oranges.

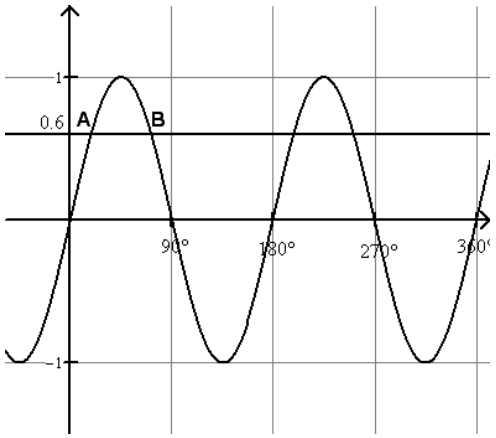
7. Solve the quadratic equation $2x^2 - 4x + 1 = 0$ to 2 decimal places.

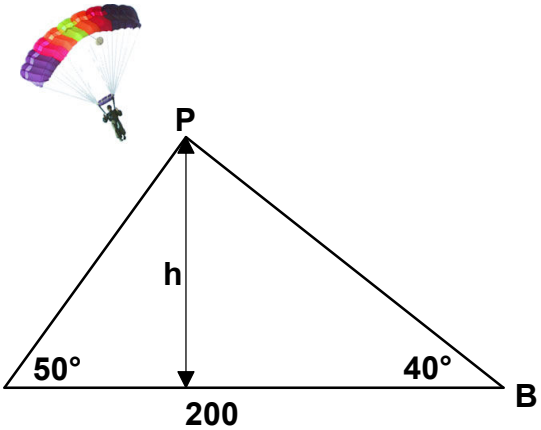
8. A DVD recorder cost £141 including the VAT at 17.5%. Find the cost **before** the VAT was added.

9. The diagram opposite shows the graph of $y = \sin 2x$.

   The line $y = 0.6$ is drawn and cuts the graph at points A and B as shown.

   Find the coordinates of points A and B.





10. A parachutist is observed at an angle of elevation of 50° from point A and 40° from B. A and B are 200m apart.
    a) Find the distance AP.
    b) Hence find h, the perpendicular height of the parachutist.