QT Quick Test 1 - Higher Non Calculator

1. $4y^2$ = 196. Find the value of y.

2. Express 210 as a product of its prime factors.

3. A plastic cuboid has a density of 0.8g/cm^3. The volume of the cuboid is 400cm^3. Calculate the mass of the cuboid.

4. A wooden block has a mass of 168grams, correct to the nearest gram.
    (a) What is the greatest possible mass of the block?
    (b) What is the least possible mass of the block?

5. Write the following in standard form
   (a) 213000
   (b) 0.0000067
   (c) 22 x 10^7

6. Estimate the following

   (a) $\dfrac{718 \; x \; 6.12}{0.191}$

   (b) $\dfrac{6.92 \; x \; 309}{0.503}$

7. A machine makes 54 car steering wheels every hour. The machine makes steering wheels 7½ hours each day, on 6 days of the week. The steering wheels are packed into boxes. Each box holds 15 steering wheels. How many boxes will be required for all the steering wheels made each week?
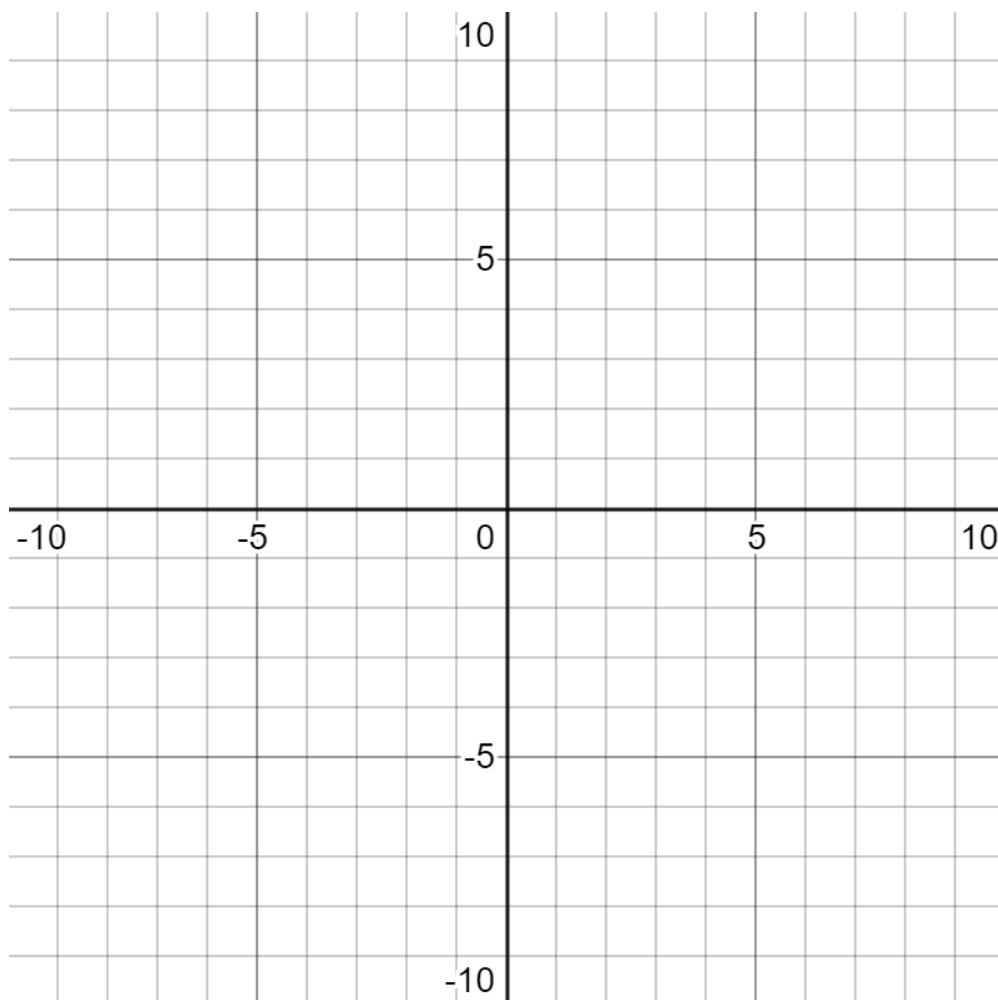
8. (a) Complete the table of values for $y = x^2 - x - 2$

x	-3	-2	-1	0	1	2	3
y			0		-2		

(b) On the grid, draw the graph $y = x^2 - x - 2$

(c) Use the graph to estimate the values of x when y = 4

(d) Use the graph to estimate the turning point of $y = x^2 - x - 2$

9. Find the equation of the straight line which passes through the points (3,2) and (5,6)

10. ABC is a triangle. Angle A is $(8x + 5)^0$, angle B is $(4x + 6)^0$ and angle C is $(5x - 1)^0$.
   (a) Find the value of x
   (b) Find the value of each angle of triangle ABC in degrees