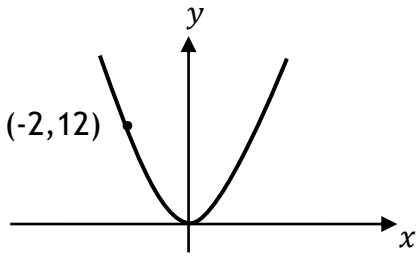
November Daily Tasks Days 8 – 14

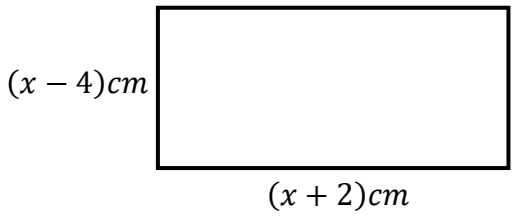
8. Change the subject of the formula below to R.

$$P = \frac{3R^2+1}{T}$$

9. The graph below has equation $y = ax^2$. Work out the value of a.



10a. The area of the rectangle below is 40cm^2. Show clearly that $x^2 - 2x - 48 = 0$



10b. Hence, solve $x^2 - 2x - 48 = 0$, and state the dimensions of the rectangle.

11. Find the equation of the straight line passing through (-3,7) and parallel to the line with equation $y = 2x - 5$.

12. Solve the system of equations

$$2x - 5y = 11.$$
$$3x + 2y = -12.$$

13a. A function has equation $f(x) = x^2 - 6x + 11$.
Express in the form $f(x)$ in the form $(x-a)^2 + b$

13b. State the maximum turning point of $f(x)$ and write the equation of its axis of symmetry.

14. Planet A has a volume of 5.36 x 10^{24} km^3. Planet B has a volume of 2.42 x 10^{26} km^3.
How many times larger is planet B than planet A?
Round your answer correct to 2 significant figures.