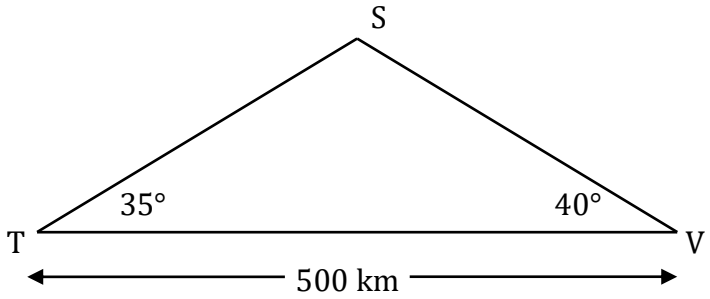
March Daily Tasks: Days 1 - 7

1. A TV signal is sent from a transmitter T, via a satellite S, to a village V, as shown in the diagram. The village is 500km from the transmitter.



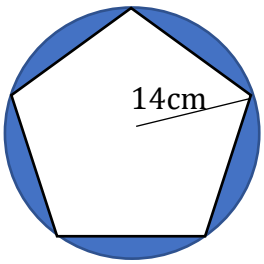
The signal is sent out at an angle of 35° and is received in the village at an angle of 40°.

Calculate the height of the satellite above the ground.

2. A regular pentagon is shown drawn inside a circle with radius 14cm.

a) Calculate the area of the pentagon

b) Calculate the shaded area.



3a. Express $x^2 - 8x + 3$ in the form $(x + a)^2 + b$

3b. Sketch the graph of $y = x^2 - 8x + 3$, showing clearly the coordinates of the turning point and its y-intercept.

State the equation of its axis of symmetry.

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

$$V = \frac{PR^3}{5}$$

5. Evaluate

$$\frac{2}{3} + \frac{3}{8} \div 2\frac{1}{4}$$

6. Solve algebraically the equation. $2x - \frac{(3x-1)}{4} = 4.$

7. A function has equation $f(x) = 5x - 11.$

If $f(a) = 19$, find the value of a.