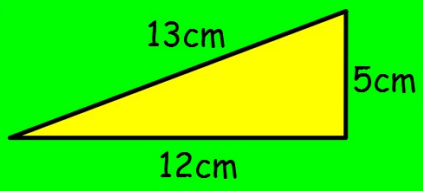
Starter

1. Is the triangle opposite right-angled?
   You must give a reason for your answer.



2. Find the volume of
   a. A sphere with radius 4.3 cm.
   b. A cone with height 92 cm and diameter 41 cm.

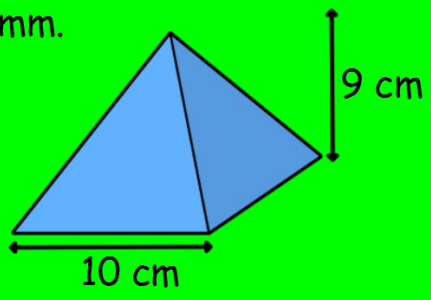
3. Solve: $2(3x - 4) < 3(x - 5) + 6$

4. A straight line has equation $x - 5y = 9$.
   a. Find the gradient of this line.
   b. Find the equation of the line which is parallel to this line but which passes through the point (0, 8).
   c. State the coordinates of the point where this second line crosses the y-axis.

Starter

1. Find the y-intercept:
   a. $y = 4x + 1$ b. $6y = 3x + 12$ c. $8y + 5x + 1 = 0$

2. Find the volume of
   a. A cylinder with height 12 mm and radius 5 mm.
   b. The square-based pyramid shown.



3. Solve: $\frac{4(2g - 3)}{3} = \frac{g + 5}{2}$

4. Find the **perimeter** of a quarter-circle with radius 5 cm.

Starter

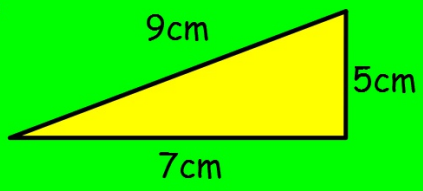
1. Find
   a. $3\frac{3}{4} - 2\frac{1}{3} \times \frac{1}{2}$ b. $12 \div 1\frac{5}{7}$

2. Paul started earning £23,600 in his first year as a graduate. By the second year, he was earning £26,410.
   a. Express the increase as a percentage of his first year wage.
   b. If he continues receiving pay increases at this rate, after how many years will he be earning more than £47,000?

3. Find the radius of
   a. A sphere with volume 22,567 cm^3.
   b. A cylinder with height 12m and volume 876 m^3.

Starter

1. Is the triangle opposite right-angled?
   You must give a reason for your answer.



2. Find the volume of
   a. A hemisphere with radius 3 cm.
   b. A cylinder with height 9 cm and diameter 2 cm.

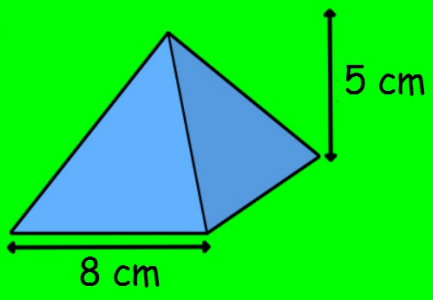
3. Solve: $4(3x - 4) < 3(6x - 5)$

4. A straight line has equation $x + 3y = 9$.
   a. Find the gradient and then sketch this line.
   b. Find the equation of the line which is parallel to this line but which passes through the point (0, -5).

Starter

1. Sketch the following lines, marking the y-intercept clearly:
   a. $y = -x + 5$ b. $4y = 2x - 12$

2. Find the volume of
   a. A cone with height 16 mm and radius 4 mm.
   b. The square-based pyramid shown.



3. Solve: $\frac{3(4g - 1)}{5} = \frac{2g + 5}{2}$

4. Find the area of a semi-circle with radius 11 cm.