8. In a restaurant, 2 starters and 3 main courses cost £32.25
a) Write down an equation to represent this information

    Four starters and 1 main course costs £23.25
b) Write down a second equation to represent this information.

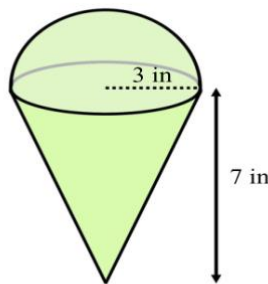c) Solve the equations to find the cost of one starter and the cost of one main course.

9a. Simplify $\dfrac{3x^4 \times 8x^5}{6x^7}$

9b. Write $\dfrac{2}{\sqrt{12}}$ with a rational denominator in its simplest form.

10. Calculate the volume of the shape below, consisting of a cone and a hemisphere.

$$Volume\ of\ cone = \tfrac{1}{3}\pi r^2 h$$
$$Volume\ of\ sphere = \tfrac{4}{3}\pi r^3$$
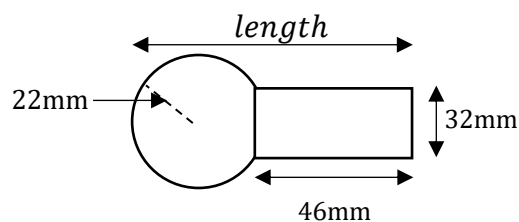

3 in

7 in

11. Solve. $2(3 – 5x) > 3(4\ \text{-x}) + 8$

12. Sketch a graph of $ax^2 + bx + c = 0$ where $a < 0$ and $b^2 - 4ac > 0$.

13 A function has equation $f(x) = 2x^2 + 5x - 7$.
a) Evaluate $f(-2)$.
b) If $f(a) = 0$, calculate the values of a.

14. A key is designed using a circle and a rectangle before being cut to shape.

length

22mm

32mm

46mm

Calculate the length of the key.