4.5 Volume of a Right Rectangular Prism – Worksheet

1. Find the volume of a rectangular prism measuring 5 m by 8 m by 9 m.

$$V = Ah$$
$$= (5 \times 8) \times 9$$
$$= 360 m^3$$

2. Find all possible whole-number dimensions of a rectangular prism with volume 30 m³.

1-10-3   1-2-15

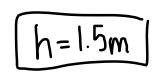3-5-2   1-5-6

1-1-30

3. Maria's backyard pool is in the shape of a rectangular prism.
   The pool is 5 m wide and 8 m long. It holds 60 m³ of water.
   a) What is the depth of the water?

$$V = l \times w \times h$$
$$60 = 5 \times 8 \times h$$
$$\frac{60}{40} = \frac{40 \times h}{40}$$

$$\boxed{h = 1.5m}$$

   b) Maria has to decrease the depth of water by 0.5 m for the winter.
   How much water does she take out?

$$\boxed{h = 1}$$
$$V = L \times W \times H$$
$$= 5 \times 8 \times 1$$
$$= 40 m^3$$

She took out
$$60 - 40 = 20 m^3$$