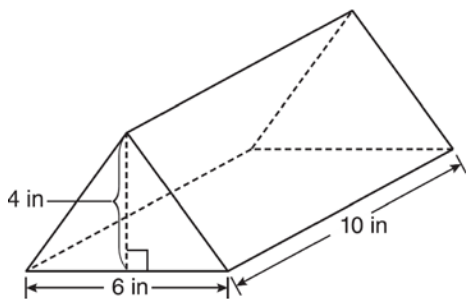


G.G.12: Volume 1: Know and apply that the volume of a prism is the product of the area of the base and the altitude

- 1 A packing carton in the shape of a triangular prism is shown in the diagram below.



What is the volume, in cubic inches, of this carton?

- 1) 20
 - 2) 60
 - 3) 120
 - 4) 240
- 2 The volume of a rectangular prism is 144 cubic inches. The height of the prism is 8 inches. Which measurements, in inches, could be the dimensions of the base?
- 1) 3.3 by 5.5
 - 2) 2.5 by 7.2
 - 3) 12 by 8
 - 4) 9 by 9
- 3 A rectangular prism has a volume of $3x^2 + 18x + 24$. Its base has a length of $x + 2$ and a width of 3. Which expression represents the height of the prism?
- 1) $x + 4$
 - 2) $x + 2$
 - 3) 3
 - 4) $x^2 + 6x + 8$
- 4 A right prism has a square base with an area of 12 square meters. The volume of the prism is 84 cubic meters. Determine and state the height of the prism, in meters.
- 5 The Parkside Packing Company needs a rectangular shipping box. The box must have a length of 11 inches and a width of 8 inches. Find, to the *nearest tenth of an inch*, the minimum height of the box such that the volume is *at least* 800 cubic inches.

G.G.12: Volume 1: Know and apply that the volume of a prism is the product of the area of the base and the altitude

Answer Section

1 ANS: 3 REF: 081123ge

2 ANS: 2 REF: 011215ge

3 ANS: 1

$$\frac{3x^2 + 18x + 24}{3(x + 2)}$$

$$\frac{3(x^2 + 6x + 8)}{3(x + 2)}$$

$$\frac{3(x + 4)(x + 2)}{3(x + 2)}$$

$$x + 4$$

REF: fall0815ge

4 ANS:

$$Bh = V$$

$$12h = 84$$

$$h = 7$$

REF: 011432ge

5 ANS:

$$9.1. (11)(8)h = 800$$

$$h \approx 9.1$$

REF: 061131ge