

Answers

Answers may vary a little depending on rounding.

Area of triangles:

Determine height or notice

Pythagorean triple 3, 4, 5.

$$h = 3 \text{ cm}$$

$$2 \times \frac{1}{2} (12 \times 3) = 36$$

The area of the triangles
is 36 cm^2 .

Area of rectangles:

Determine width of one face.

$$3^2 + 8^2 = c^2$$

$$9 + 64 = c^2$$

$$73 = c^2$$

$$c = \sqrt{73}$$

$$c \approx 8.54$$

$$\begin{aligned} &15 \times 12 + 15 \times 5 + 15 \times 8.54 \\ &= 180 + 75 + 128.1 \\ &= 383.1 \end{aligned}$$

The area of the rectangles
is 383.1 cm^2 .

The surface area of the triangular prism is $36 \text{ cm}^2 + 383.1 \text{ cm}^2$,
or 419.1 cm^2 .