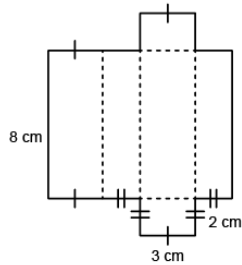


# Activity 3 Assessment

## Surface Area of Prisms and Pyramids

### Using Nets to Determine Surface Area of Prisms and Pyramids

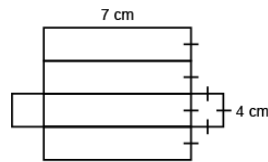
Uses nets to calculate surface area by adding the partial areas.



"I added the partial areas:

- Area of rectangle:  $7\text{ cm} \times 4\text{ cm} = 28\text{ cm}^2$
- Area of 4 rectangles:  $4 \times 28\text{ cm}^2 = 112\text{ cm}^2$
- Area of square:  $4\text{ cm} \times 4\text{ cm} = 16\text{ cm}^2$
- Area of 2 squares:  $2 \times 16\text{ cm}^2 = 32\text{ cm}^2$
- Surface area of prism:  $112\text{ cm}^2 + 32\text{ cm}^2 = 144\text{ cm}^2$

Uses net to show relationship between areas of faces and surface area of prism/pyramid.



Surface Area = Sum of the areas of the 3 pairs of congruent rectangles

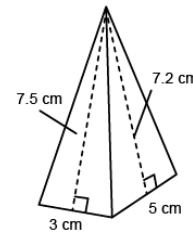
$$SA = 2(8\text{ cm} \times 3\text{ cm}) + 2(8\text{ cm} \times 2\text{ cm}) + 2(2\text{ cm} \times 3\text{ cm})$$

$$= 2(24\text{ cm}^2) + 2(16\text{ cm}^2) + 2(6\text{ cm}^2)$$

$$= 48\text{ cm}^2 + 32\text{ cm}^2 + 12\text{ cm}^2$$

$$= 92\text{ cm}^2$$

Determines surface area by visualizing net and adding the areas of its faces.



Surface Area = Area of rectangle + Sum of the areas of the 2 pairs of congruent triangles

$$SA = (3\text{ cm} \times 5\text{ cm}) + 2(5\text{ cm} \times 7.2\text{ cm} + 2)$$

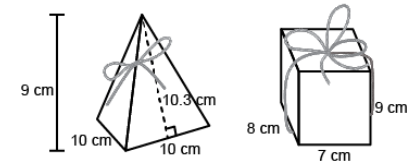
$$+ 2(3\text{ cm} \times 7.5\text{ cm} \div 2)$$

$$= 15\text{ cm}^2 + 2(18\text{ cm}^2) + 2(11.25\text{ cm}^2)$$

$$= 15\text{ cm}^2 + 36\text{ cm}^2 + 22.5\text{ cm}^2$$

$$= 73.5\text{ cm}^2$$

Flexibly solves surface area problems by adding the areas of 2-D faces.



Which box would need less wrapping paper?

**Square pyramid**

$$SA = (10\text{ cm} \times 10\text{ cm}) + 4(10\text{ cm} \times 10.3\text{ cm} \div 2)$$

$$= 306\text{ cm}^2$$

**Rectangular prism**

$$SA = 2(7\text{ cm} \times 8\text{ cm}) + 2(7\text{ cm} \times 9\text{ cm}) + 2(8\text{ cm} \times 9\text{ cm})$$

$$= 382\text{ cm}^2$$

### Observations/Documentation