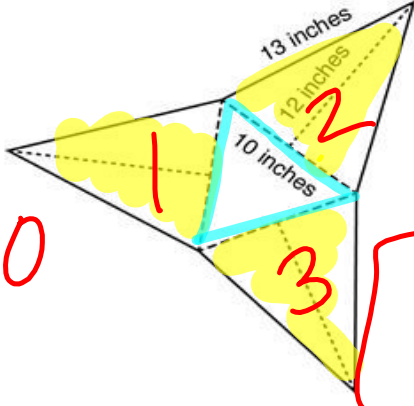


1. The net of a triangular pyramid is shown. A pyramid will be constructed by this pattern, but it will not have a base.

$$A = \frac{B \times h}{2}$$

$$\frac{10 \times 12}{2} = 60$$

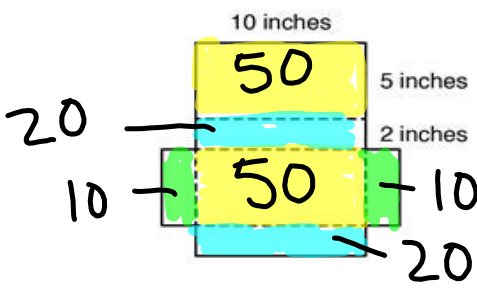


$$60 \times 3 =$$

$$180 \text{ in}^2$$

What is the surface area of the faces of the pyramid? Record your answer in square inches.

2. The net of a rectangular prism is shown.



$$SA =$$

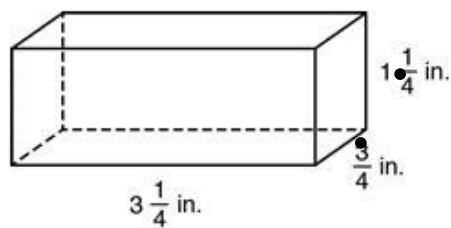
$$50 + 50 + 20$$

$$+ 20 + 10 + 10$$

$$= 160 \text{ in}^2$$

What is the surface area, in square inches, of the figure shown in the net?

3. A small, empty box is shown.



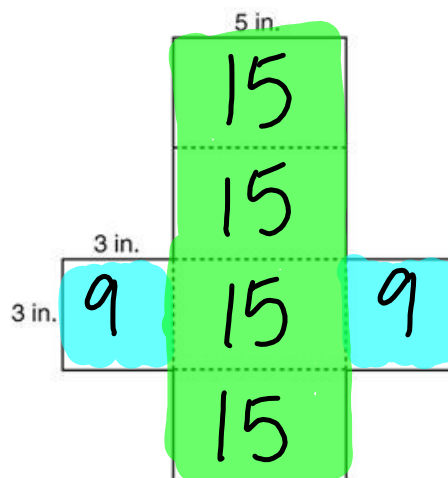
Which statements about this box are true?

Check all that apply.

Pick up to 4 answers.

- A. The volume of the box in cubic inches can be found by multiplying $\frac{15}{16} \times 3\frac{1}{4}$.
- B. The volume of the box is $3\frac{3}{64}$ cubic inches.
- C. It takes 195 cubes with $\frac{1}{4}$ -inch edges to completely fill the box.
- D. The volume of the box can be found by multiplying $3\frac{1}{4}$ inches, $\frac{3}{4}$ inch, $1\frac{1}{4}$ inches.

4. Zoe is making a rectangular box with measurements as shown below.



What is the surface area of the box?

- A. 78 in.²
- B. 60 in.²
- C. 46 in.²
- D. 15 in.²

$$\begin{aligned} SA &= 15 + 15 + 15 + 15 + 9 + 9 \\ &= 78 \text{ in}^2 \end{aligned}$$

5. Which expression can be used to find the volume, in cubic units, of a rectangular prism with the dimensions shown below?

$$\text{length} = 2x \text{ units}$$

$$\text{width} = 4x \text{ units}$$

$$\text{height} = x \text{ units}$$

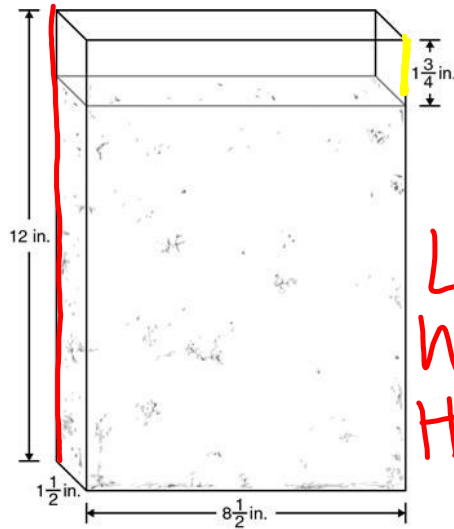
- A. $7x^3$
B. $7x$
C. $8x^3$
D. $8x$

$$V = L \times W \times H$$

$$V = 2x \cdot 4x \cdot x$$

$$V = 8x^3$$

6. A container in the shape of a rectangular prism is used to hold sugar. The height of the container is 12 inches (in.). The current amount of sugar in the container is $1\frac{3}{4}$ inches from the top of the container as shown in the figure below.



Container:

$L = 8\frac{1}{2}$
 $W = 1\frac{1}{2}$
 $H = 12$
 $V = 153 \text{ in}^3$

Sugar

$L = 8\frac{1}{2}$

$W = 1\frac{1}{2}$

$H = 12 - 1\frac{3}{4}$

$= 10\frac{1}{4}$

What is the volume, in cubic inches, of the total amount of sugar in the container?

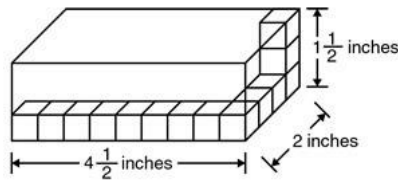
- A. $130\frac{11}{16}$
- B. $137\frac{1}{16}$
- C. $143\frac{7}{16}$
- D. $175\frac{5}{16}$

$V = 130\frac{11}{16} \text{ in}^3$

✓

7. A storage box is shaped like a rectangular prism, as shown below. Skylar stored $\frac{1}{2}$ -inch cubes in the box.

vol. of prism
vol. of cube
 = # of cubes



Key: Each = $\frac{1}{2}$ inch on each edge

$$V = 4\frac{1}{2} \times 2 \times 1\frac{1}{2}$$

$$V = 13\frac{1}{2} \text{ in}^3$$

How many cubes are needed to completely fill the box?

- A. 108 cubes
- B. 72 cubes
- C. 54 cubes
- D. 27 cubes

$$13\frac{1}{2} \div \frac{1}{8} = 108$$

$$V = \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}$$

$$V = \frac{1}{8} \text{ in}^3$$

8. Maria has a gift box shaped like a rectangular prism.



What is the volume of the box?

- A. 156.25 cubic inches
- B. 181.25 cubic inches
- C. 312.5 cubic inches
- D. 362.5 cubic inches

$$V = L \times W \times H$$

$$V = 2.5 \times 12.5 \times 10$$

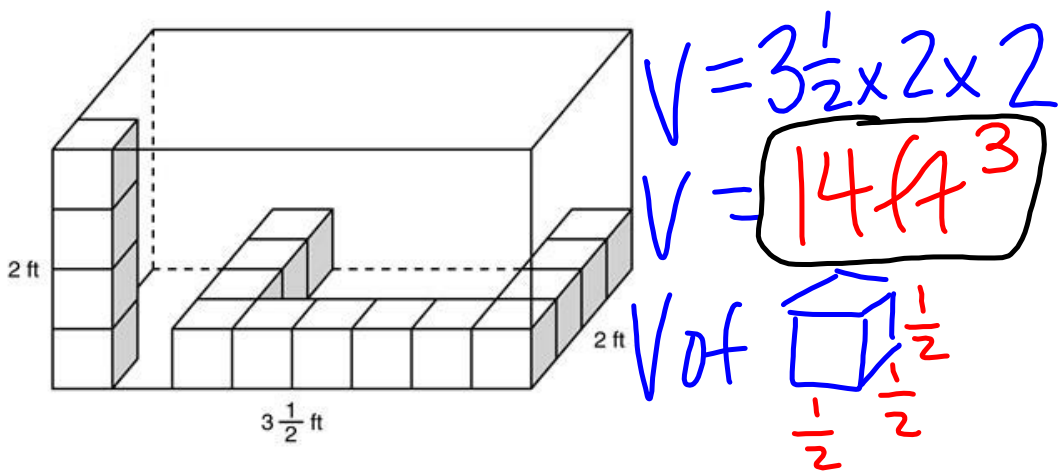
$$V = 312.5 \text{ in}^3$$

9. Jody has a plastic container in the shape of a rectangular prism. The container is $8\frac{1}{2}$ inches long, 4 inches wide, and $3\frac{1}{2}$ inches high. What is the volume of this plastic container?

- A. 119 cubic inches
B. 97 cubic inches
C. 34 cubic inches
D. 16 cubic inches

$$V = L \times W \times H$$
$$V = 8\frac{1}{2} \times 4 \times 3\frac{1}{2}$$
$$V = 119 \text{ in}^3$$

10. John has a storage bin in the shape of a rectangular prism. The storage bin measures $3\frac{1}{2}$ feet long, 2 feet wide, and 2 feet tall. John will put boxes that measure $\frac{1}{2}$ foot on each side into the bin.



What is the greatest number of boxes John can put into the bin?

- A. 14
- B. 56
- C. 112
- D. 224

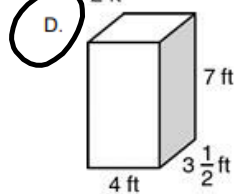
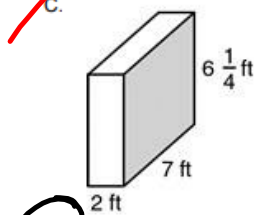
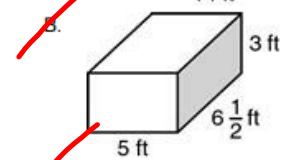
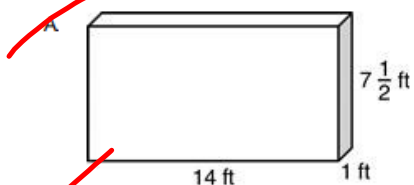
Vol. of prism
Vol. of cube

$$14 \div \frac{1}{8} = 112 \text{ boxes}$$

$$= \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$$

$$= \frac{1}{8} \text{ in}^3$$

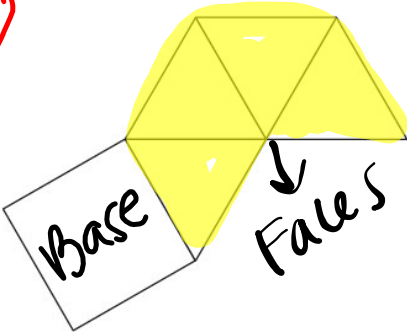
13. A manager at a shipping company will purchase boxes in the shape of right rectangular prisms. He wants the volume of each box to be exactly 98 cubic feet. Which figure shows a box with the dimensions, in feet (ft), that the manager will purchase?



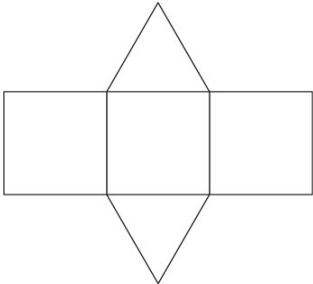
$$V = 7 \times 3\frac{1}{2} \times 4$$
$$V = 98 \text{ ft}^3$$

14. Which is the net for a square pyramid?

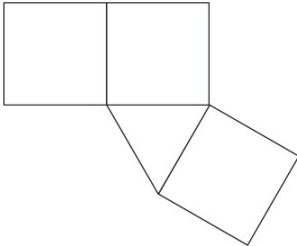
A



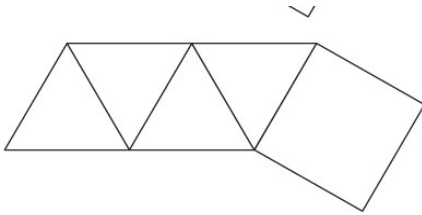
B.



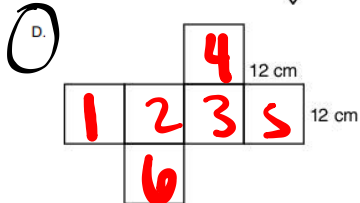
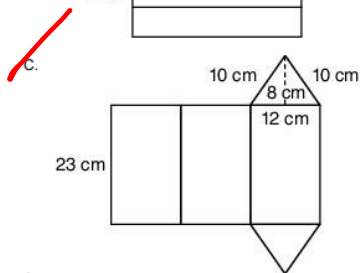
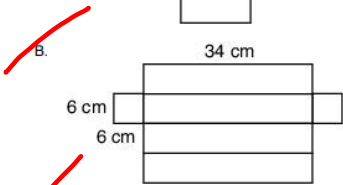
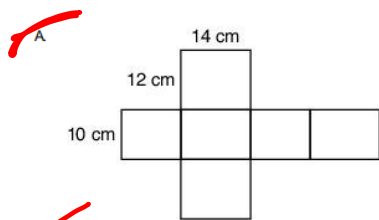
C.



D.



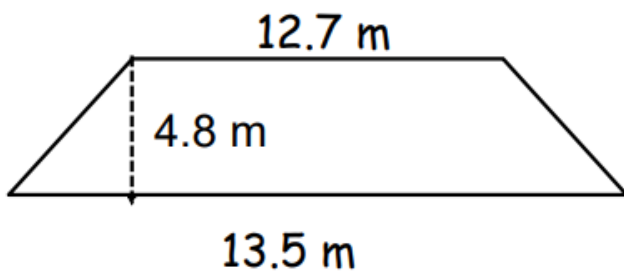
15. Which net represents a three-dimensional figure with a surface area of 864 square centimeters (cm²)?



$$12 \times 12 = 144 \text{ cm}^2$$

$$144 \times 6 = 864 \text{ cm}^2$$

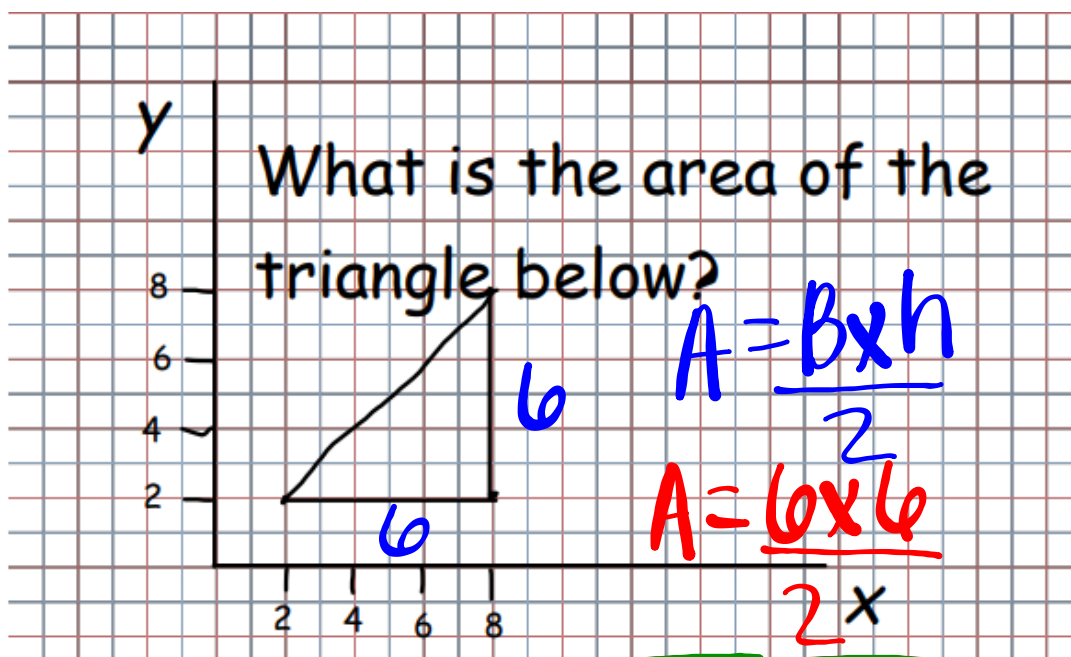
16. What is the area of the trapezoid?



$$A = \frac{(B_1 + B_2)h}{2}$$

$$A = \frac{(13.5 + 12.7)4.8}{2}$$

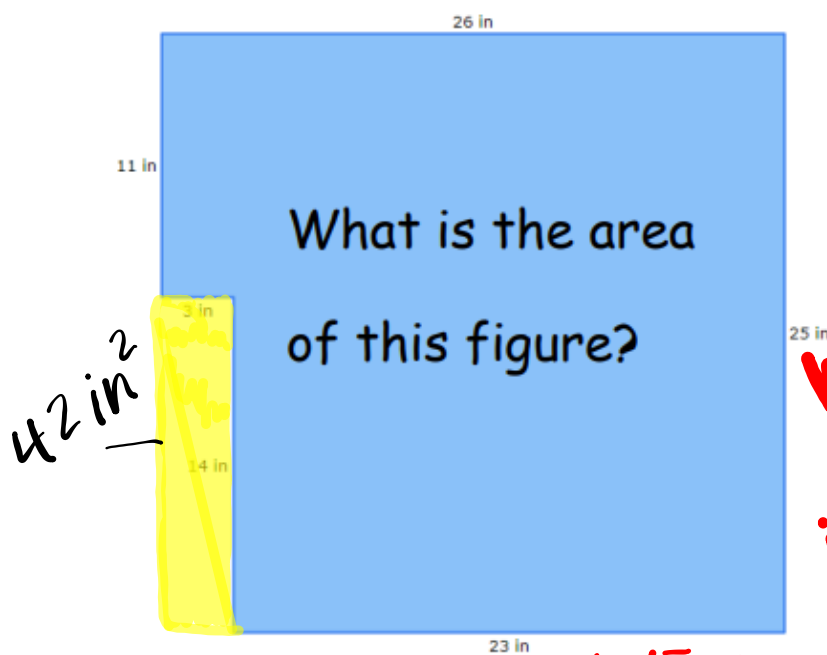
$$A = 62.88 \text{ m}^2$$



$$A = \frac{B \times h}{2}$$

$$A = \frac{6 \times 6}{2}$$

$$A = 18 \text{ u}^2$$



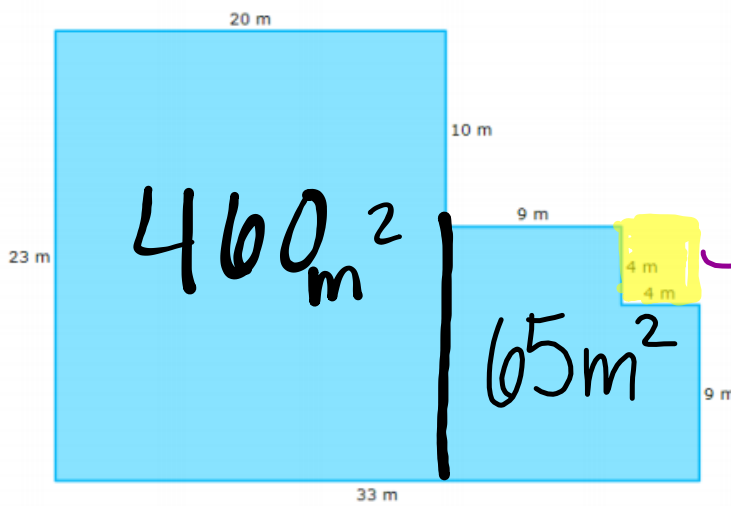
There are different ways to solve, this is just one way...

$$A = 26 \times 25 = 650$$

$$650 - 42 =$$

$$608 \text{ in}^2$$

What is the area of this figure?



$$\rightarrow 9 \times 9 = 81$$

$$A = 460 + 65 = 525 \text{ m}^2$$

$$81 - 16 = 65$$