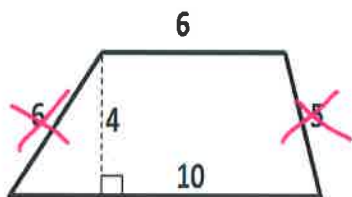
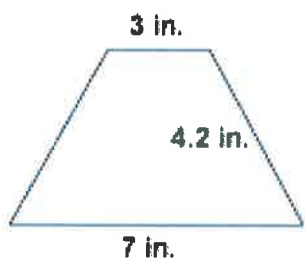


1. Determine the area of the trapezoids shown below.



FORMULA: $A = \frac{1}{2}(b_1 + b_2)h$
 PLUG-IN: $A = \frac{1}{2}(10 + 6)4$
 ANSWER: $A = 32 \text{ units}^2$

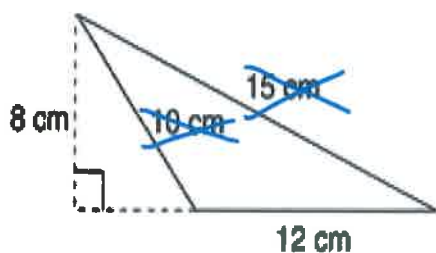
$A = \frac{1}{2}(16)4$
 $A = 8 \cdot 4$
 $A = 32 \text{ units}^2$



FORMULA: $A = \frac{1}{2}(b_1 + b_2)h$
 PLUG-IN: $A = \frac{1}{2}(3 + 7)4.2$
 ANSWER: $A = 21 \text{ in}^2$

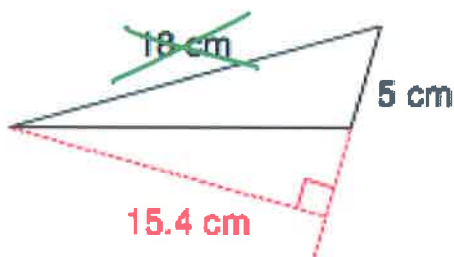
$A = \frac{1}{2}(10)(4.2)$
 $A = (5)(4.2)$
 $A = 21.0 \text{ in}^2$

2. Find the area of the triangles below.



FORMULA: $A = \frac{1}{2}bh$
 PLUG-IN: $A = \frac{1}{2}(8)(12)$
 ANSWER: $A = 48 \text{ cm}^2$

$A = 4 \cdot 12$
 $A = 48 \text{ cm}^2$

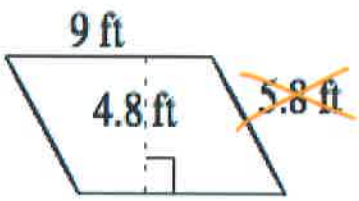


FORMULA: $A = \frac{1}{2}bh$
 PLUG-IN: $A = \frac{1}{2}(5)(15.4)$
 ANSWER: $A = 38.5 \text{ cm}^2$

$A = (2.5)(15.4)$
 $A = 38.5 \text{ cm}^2$

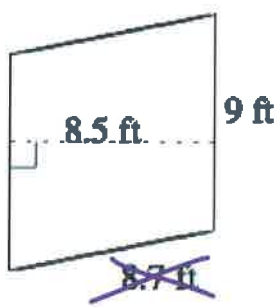
$$\begin{array}{r} 2.5 \\ \times 15.4 \\ \hline 10 \\ 75 \\ 375 \\ \hline 385.0 \end{array}$$

3. Determine the area of the parallelograms shown.



FORMULA: $A = bh$
 PLUG-IN: $A = (9)(4.8)$
 ANSWER: $A = 43.2 \text{ ft}^2$

$$\begin{array}{r} 7 \\ \times 4.8 \\ \hline 43.2 \end{array}$$



FORMULA: $A = bh$
 PLUG-IN: $A = (9)(8.5)$
 ANSWER: $A = 76.5 \text{ ft}^2$

$$\begin{array}{r} 4 \\ \times 8.5 \\ \hline 76.5 \end{array}$$

4. A triangle has a base of 55 centimeters and an area of 825 square centimeters. What is the height of the triangle?

FORMULA: $A = \frac{1}{2}bh$
 PLUG-IN: $825 = \frac{1}{2}(55)h$
 ANSWER: $h = 30 \text{ cm}$



Area: 825 cm^2

$$\begin{array}{r} 27.5 \\ 2 \overline{) 55.0} \\ \underline{-4} \\ 15 \\ \underline{-14} \\ 10 \end{array}$$

$$\frac{825}{27.5} = \frac{27.5h}{27.5}$$

$$\begin{array}{r} 0030. \\ 275 \overline{) 825.0} \\ \underline{-825} \\ 00 \\ \underline{-0} \\ 0 \end{array}$$

$$\begin{array}{r} 11 \\ + 275 \\ \hline 550 \\ + 275 \\ \hline 825 \end{array}$$

5. State if the three numbers can be the measures of the sides of a triangle. Prove your answer.

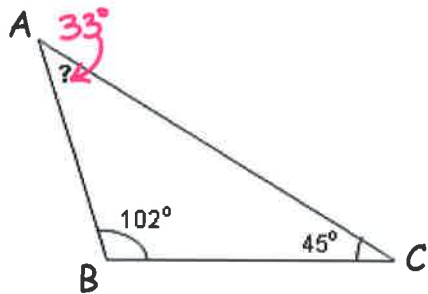
7, 5, 4 Yes!
 $7 + 4 > 5 \checkmark$
 $5 + 4 > 7 \checkmark$
 $4 + 7 > 5 \checkmark$

3, 6, 2 No!
 $3 + 6 > 2 \checkmark$
 $6 + 2 > 3 \checkmark$
 $3 + 2 > 6 \text{ X}$

1, 13, 13 Yes!
 $1 + 13 > 13 \checkmark$
 $13 + 13 > 1 \checkmark$
 $13 + 1 > 13 \checkmark$

5, 15, 8 No!
 $5 + 15 > 8 \checkmark$
 $15 + 8 > 5 \checkmark$
 $8 + 5 > 15 \text{ X}$

6. Find the missing angle(s) of each triangle and then classify the angle by its sides **and** its angles.

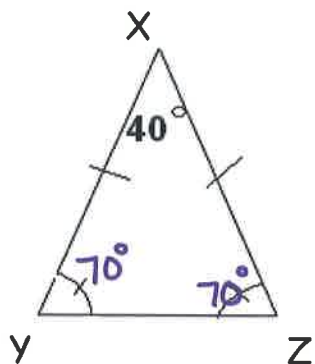


$m \angle A = 33^\circ$

Angle Name: Obtuse

Side Name: scalene

$$\begin{aligned} 102 + 45 + x &= 180 \\ 147 + x &= 180 \\ -147 & \quad -147 \\ x &= 33^\circ \end{aligned}$$



$m \angle Y = 70^\circ$

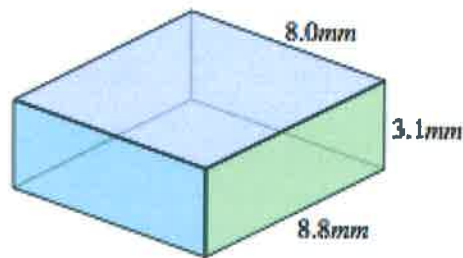
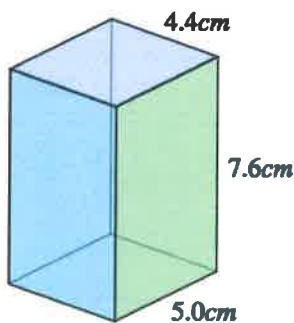
$m \angle Z = 70^\circ$

Angle Name: acute

Side Name: isosceles

$$\begin{aligned} 40 + x + x &= 180 \\ 40 + 2x &= 180 \\ -40 & \quad -40 \\ 2x &= 140 \\ \frac{2x}{2} &= \frac{140}{2} \\ x &= 70^\circ \end{aligned}$$

7. Determine the volume of the rectangular prisms. Round to the nearest tenth if necessary.



FORMULA: $B = bh$

PLUG-IN: $B = (5.0)(4.4)$

ANSWER: $B = 22 \text{ cm}^2$

FORMULA: $V = Bh$

PLUG-IN: $V = (22)(7.6)$

ANSWER: $V = 167.2 \text{ cm}^3$

FORMULA: $B = bh$

PLUG-IN: $B = (8)(8.8)$

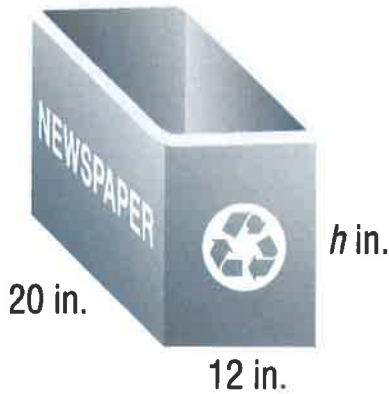
ANSWER: $B = 70.4 \text{ mm}^2$

FORMULA: $V = Bh$

PLUG-IN: $V = (70.4)(3.1)$

ANSWER: $V = 218.24 \text{ mm}^3$

8. The town of Riverview provides a rectangular recycling bin for newspapers to each household. If the **volume is 3,840 cubic inches**, what is the **height** of the recycling bin?



FORMULA: $B = bh$

PLUG-IN: $B = (20)(12)$

ANSWER: 240 in^2

FORMULA: $V = Bh$

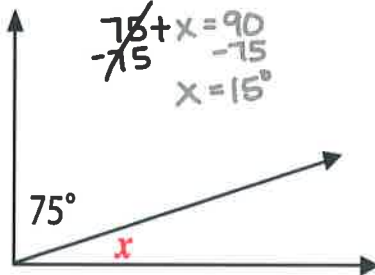
PLUG-IN: $3840 = 240h$

ANSWER: $h = 16 \text{ in}$

Handwritten calculations for area: $20 \times 12 = 240$

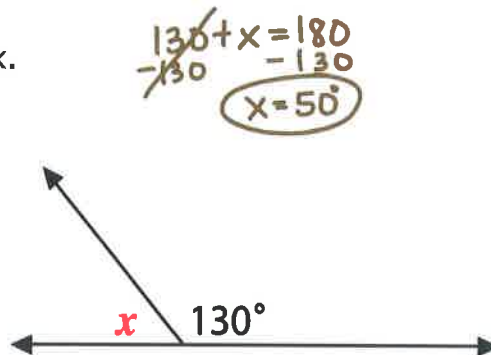
Handwritten calculations for height: $3840 \div 240 = 16$

9. Name the angles. Find each value of x.



Name: complementary

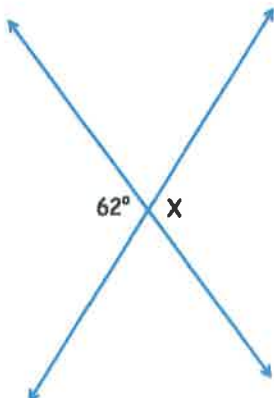
x = 15°



Name: supplementary

x = 50°

10. Name the angles. Find each value of x.



Name: vertical

x = 62°

Vertical angles are congruent (equal).

11. Vocabulary Fill in the Blanks

A trapezoid is a quadrilateral with exactly one pair of parallel sides.

Two angles are complementary if their sum is 90 degrees.

Area is the number of square units that cover a 2-D figure.

A scalene triangle is one with no sides congruent.

12. Formula Check (Use your STAAR chart.)

Area of a triangle $A = \frac{1}{2}bh$

Area of a rectangle $A = bh$ or $A = lw$

Area of a trapezoid $A = \frac{1}{2}(b_1 + b_2)h$

Area of base of a rectangular prism $B = bh$

Volume of a rectangular prism $V = Bh$

What is "b"? base or length

What is "h"? height

What is "B"? area of the base of a prism

13. The angle measures of four figures are given in the table. Which is **NOT** a triangle?

Figure	Angle 1	Angle 2	Angle 3	YES/NO
ABC	30°	60°	90°	Yes!
DEF	75°	25°	80°	Yes!
GHI	50°	38°	112°	No!
JKL	83°	32°	65°	Yes!

▲ ABC
 $30 + 60 + 90 = 180$
 $90 + 90 = 180$
 $180 = 180$
 Yes!

▲ DEF
 $75 + 25 + 80 = 180$
 $100 + 80 = 180$
 $180 = 180$
 Yes!

▲ GHI
 $50 + 38 + 112 = 180$
 $88 + 112 = 180$
 $200 = 180$
 No!

▲ JKL
 $83 + 32 + 65 = 180$
 $115 + 65 = 180$
 $180 = 180$
 Yes!

14. A crate is shaped like a rectangular prism. The crate is 1.2 feet wide, 3 feet long, and 4.5 feet tall. What is the volume of the crate in cubic feet?

FORMULA: $B = bh$

PLUG-IN: $B = (1.2)(3)$

ANSWER: $B = 3.6 \text{ ft}^2$

FORMULA: $V = Bh$

PLUG-IN: $V = (3.6)(4.5)$

ANSWER: $V = 16.2 \text{ ft}^3$

$$\begin{array}{r} 3.6 \\ \times 4.5 \\ \hline 180 \\ 1440 \\ \hline 1620 \end{array}$$

15. A storage trunk is shaped like a rectangular prism. The trunk's volume is 18 cubic feet. The length of the trunk is 6 feet and the width of the trunk is 2 feet. What is the height of this trunk?

FORMULA: $B = bh$

PLUG-IN: $B = 6 \cdot 2$

ANSWER: $B = 12 \text{ ft}^2$

FORMULA: $V = Bh$

PLUG-IN: $18 = 12h$

ANSWER: $h = 1.5 \text{ ft}$

$$\begin{array}{r} 12 \overline{) 18.0} \\ \underline{-12} \\ 60 \\ \underline{-60} \\ 0 \end{array}$$

16. A rectangle has side lengths of 9.2 inches, 20 inches, 9.2 inches, and 20 inches. Which equation can be used to find the **area** of the **rectangle**?

A $A = (20)(9.2)$

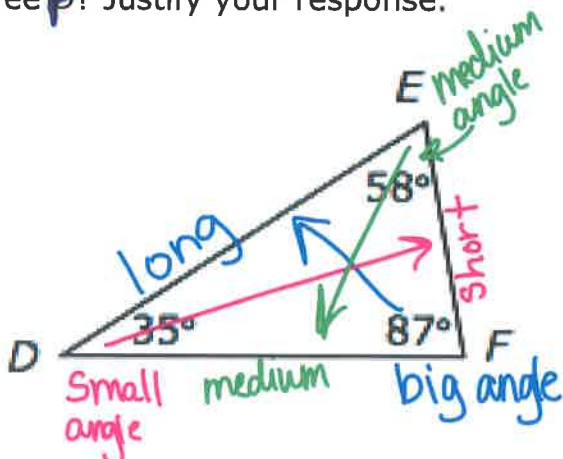
B $A = 20 \times 20$

C $A = (9.2)(9.2)$

D $A = \frac{1}{2} (20 + 9.2)$

$A = bh$
 $A = (20)(9.2)$
 $A = 184 \text{ in}^2$

17. The map below shows trees D, E, and F. Is tree **E** closer to tree D or tree **F**? Justify your response.



The tree E is closer to the tree F.

I know this because side \overline{EF} is shorter than \overline{DE} .