6th Grade

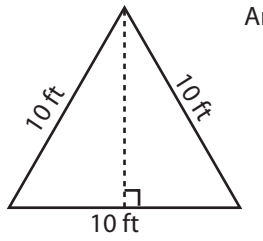
Geometry

Workbook 1

MathWorksheets4Kids.com

Equilateral Triangle - Finding Area

Example:



Area of an equilateral triangle = $\frac{\sqrt{3}}{4} a^2$

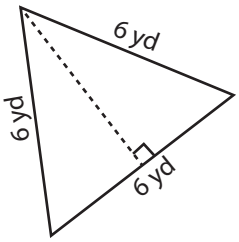
a = 10 ft

Area = $\frac{\sqrt{3}}{4}$ x 10 x 10

= **43.3 ft²**

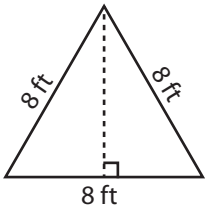
Find the area of each equilateral triangle. Round the answer to two decimal places.

1)



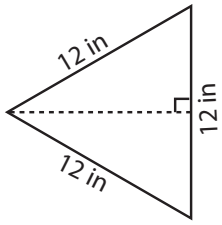
Area = _____

2)



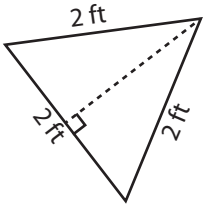
Area = _____

3)



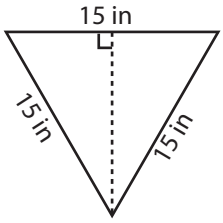
Area = _____

4)



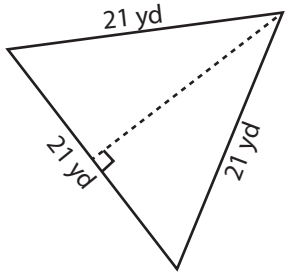
Area = _____

5)



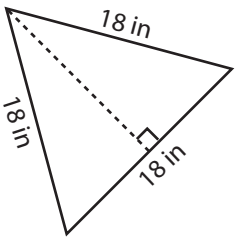
Area = _____

6)



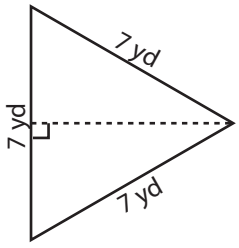
Area = _____

7)



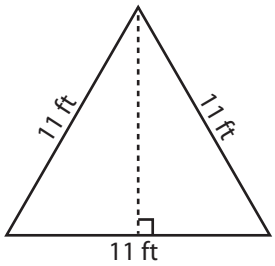
Area = _____

8)



Area = _____

9)

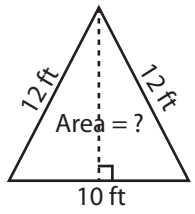


Area = _____

Isosceles Triangle - Finding Area

Example:

In an isosceles triangle, altitude drawn to the base is a median.
Median divides base into equal line segments.

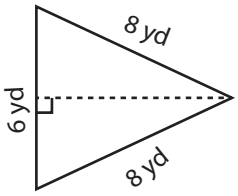


height = $\sqrt{12^2 - 5^2}$
= $\sqrt{144 - 25}$
= $\sqrt{119}$
= **10.91 ft**

Area = $\frac{1}{2}$ x b x h
= $\frac{1}{2}$ x 10 x 10.91
= **54.55 ft²**

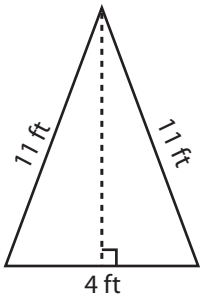
Find the area of each isosceles triangle. Round the answer to two decimal places.

1)



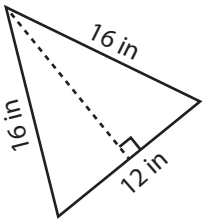
Area = _____

2)



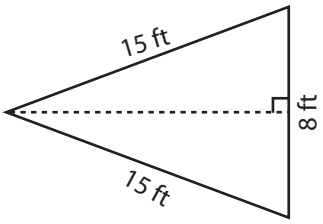
Area = _____

3)



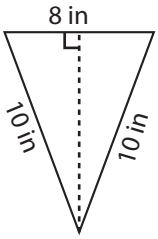
Area = _____

4)



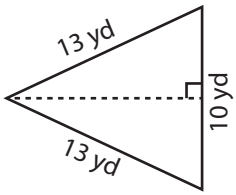
Area = _____

5)



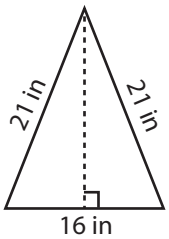
Area = _____

6)



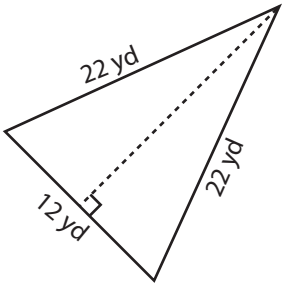
Area = _____

7)



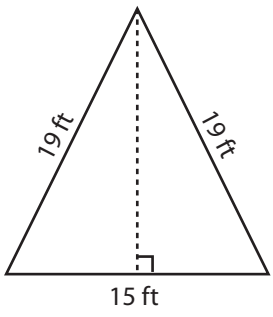
Area = _____

8)



Area = _____

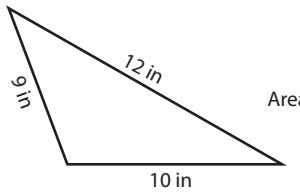
9)



Area = _____

Scalene Triangle - Finding Area

Example:



Area = ?

Area of scalene triangle = $\sqrt{s\,(s-a)\,(s-b)\,(s-c)}$

s = half of the perimeter

$s = \frac{a+b+c}{2}$

$s = \frac{10\text{ in} + 12\text{ in} + 9\text{ in}}{2}$

$s = \frac{31\text{ in}}{2}$

s = **15.5 in**

Area of scalene triangle = $\sqrt{s\,(s-a)\,(s-b)\,(s-c)}$

$= \sqrt{15.5\,(15.5 - 10)\,(15.5 - 12)\,(15.5 - 9)}$

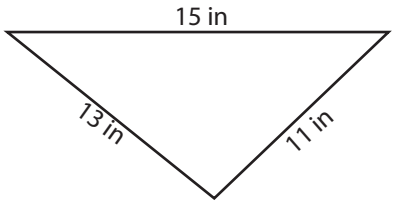
$= \sqrt{15.5\,(5.5)\,(3.5)\,(6.5)}$

$= \sqrt{1939.4375}$

= **44.04 in²**

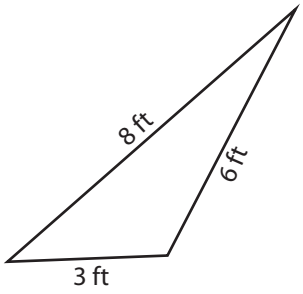
Find the area of each scalene triangle. Round the answer to two decimal places.

1)



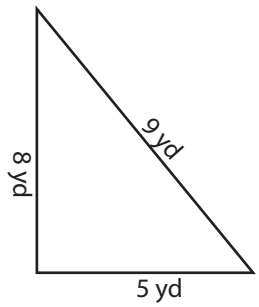
Area = _____

2)



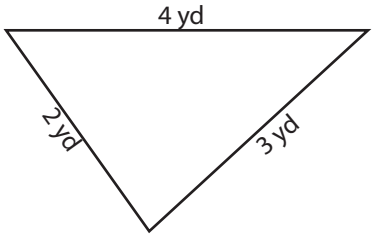
Area = _____

3)



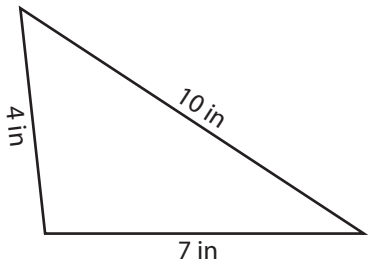
Area = _____

4)



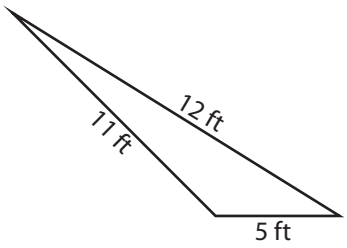
Area = _____

5)



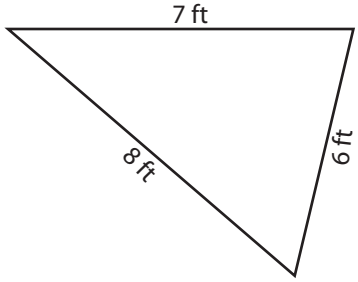
Area = _____

6)



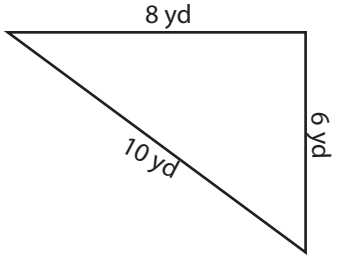
Area = _____

7)



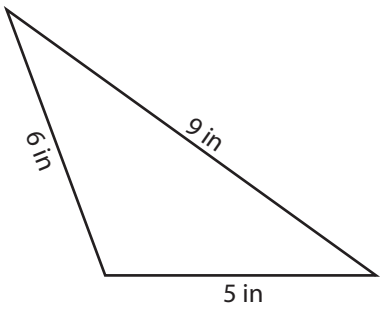
Area = _____

8)



Area = _____

9)

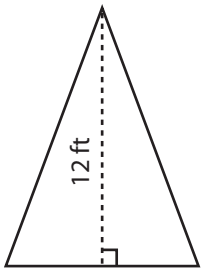


Area = _____

Triangle - Finding Base or Height

Find the base or height of each triangle.

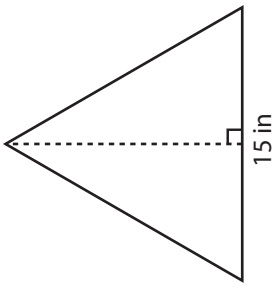
1)



Area = 48 ft²

Base = _____

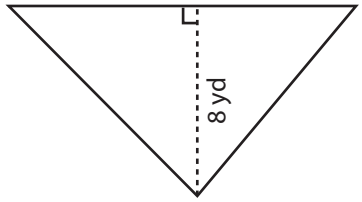
2)



Area = 90 in²

Height = _____

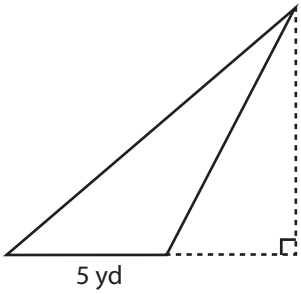
3)



Area = 52 yd²

Base = _____

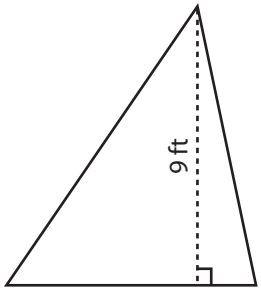
4)



Area = 25 yd²

Height = _____

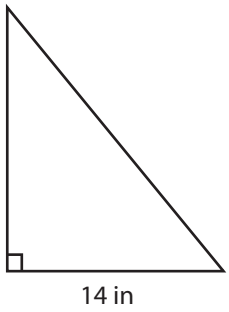
5)



Area = 36 ft²

Base = _____

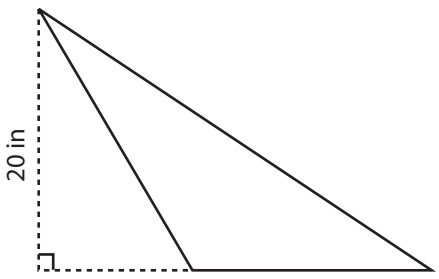
6)



Area = 119 in²

Height = _____

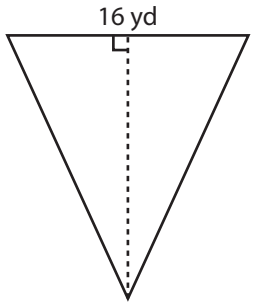
7)



Area = 160 in²

Base = _____

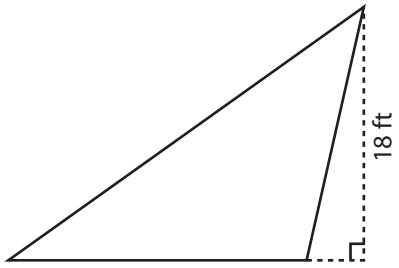
8)



Area = 176 yd²

Height = _____

9)



Area = 180 ft²

Base = _____

Parallelogram - Area

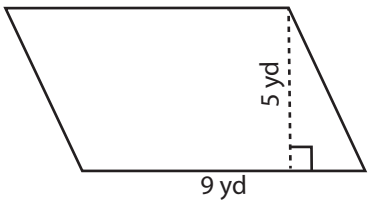
E

Find the area of each parallelogram.

1)

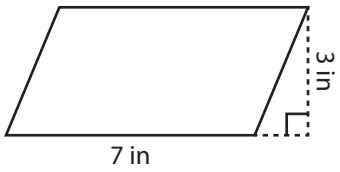
Area =

2)



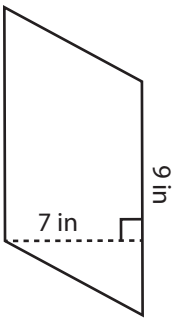
Area =

3)



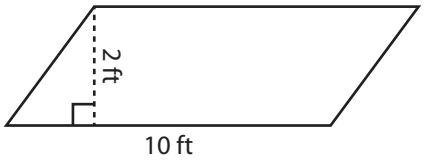
Area =

4)



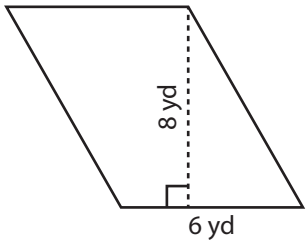
Area =

5)



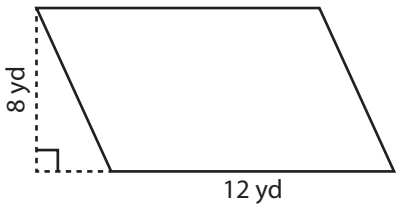
Area =

6)



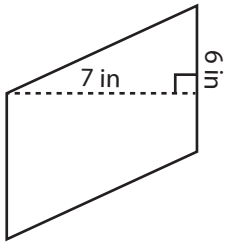
Area =

7)



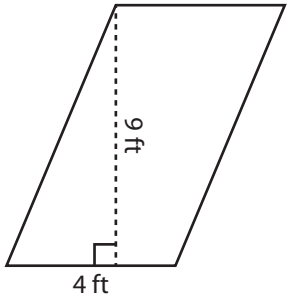
Area =

8)



Area =

9)



Area =

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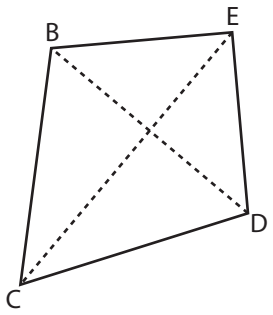
D

Area of Kite

Find the area of each kite. Round the answer to 2 decimal places.

1)

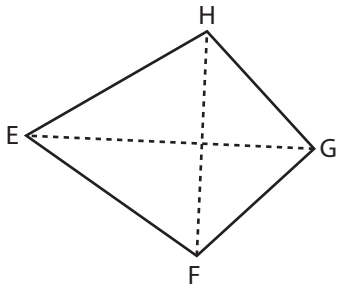


$\overline{BD}$ = 5.6 ft

$\overline{CE}$ = 9.2 ft

Area = _____

2)

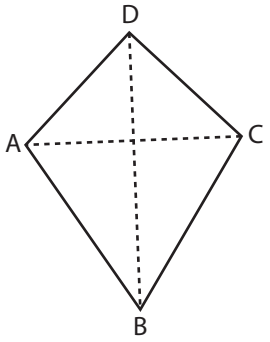


$\overline{EG}$ = 8.9 in

$\overline{FH}$ = 7.5 in

Area = _____

3)

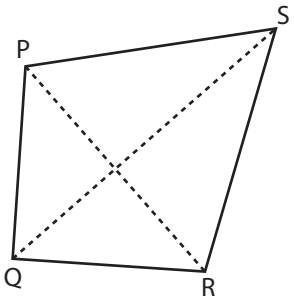


$\overline{BD}$ = 10.1 yd

$\overline{AC}$ = 7.5 yd

Area = _____

4)

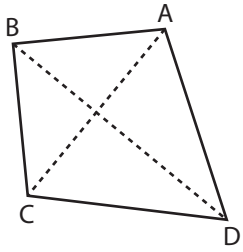


$\overline{PR}$ = 8.1 in

$\overline{QS}$ = 12.4 in

Area = _____

5)

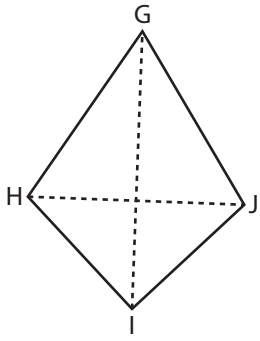


$\overline{AC}$ = 6.4 yd

$\overline{BD}$ = 8.3 yd

Area = _____

6)

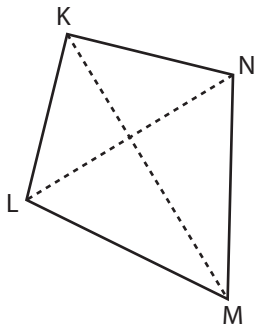


$\overline{HJ}$ = 9.3 ft

$\overline{GI}$ = 11.5 ft

Area = _____

7)

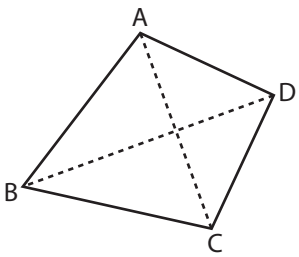


$\overline{LN}$ = 9.6 yd

$\overline{KM}$ = 12.3 yd

Area = _____

8)

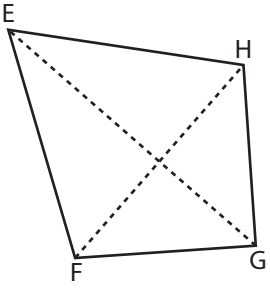


$\overline{BD}$ = 7.5 ft

$\overline{AC}$ = 5.3 ft

Area = _____

9)



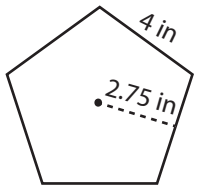
$\overline{EG}$ = 14.5 in

$\overline{FH}$ = 12.1 in

Area = _____

Polygon - Area & Perimeter

Example:



Perimeter = number of sides × side length

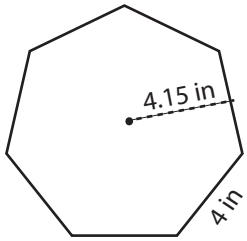
$= 5 \times 4 =$ **20 in**

Area $= \frac{1}{2} \times$ apothem × perimeter

$= \frac{1}{2} \times 2.75 \times 20 =$ **27.5 in²**

Find the perimeter and area of each polygon.

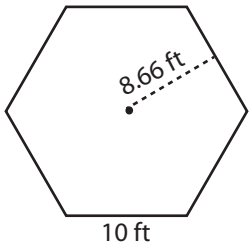
1)



Perimeter = _____

Area = _____

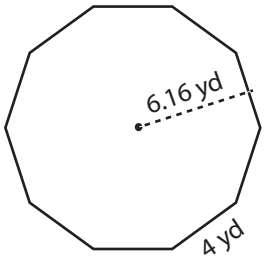
2)



Perimeter = _____

Area = _____

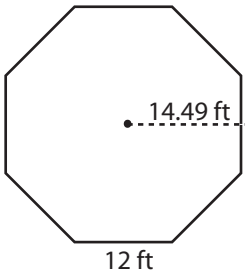
3)



Perimeter = _____

Area = _____

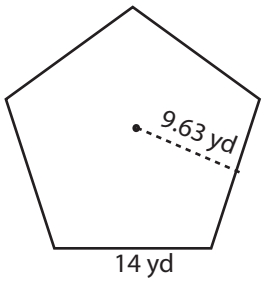
4)



Perimeter = _____

Area = _____

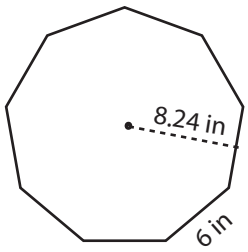
5)



Perimeter = _____

Area = _____

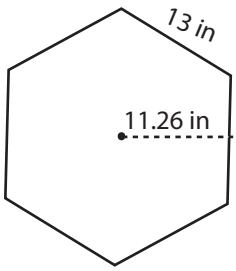
6)



Perimeter = _____

Area = _____

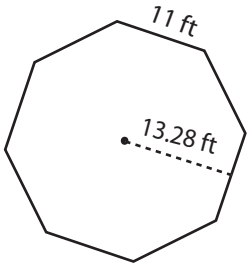
7)



Perimeter = _____

Area = _____

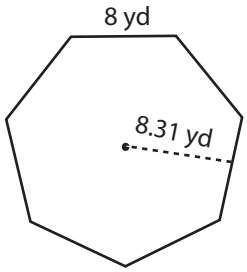
8)



Perimeter = _____

Area = _____

9)

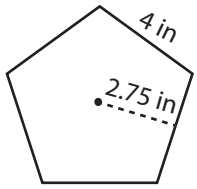


Perimeter = _____

Area = _____

Polygon - Area & Perimeter

Example:



Perimeter = number of sides × side length

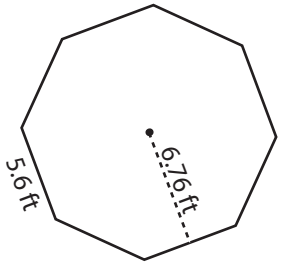
$= 5 \times 4 =$ **20 in**

Area $= \frac{1}{2} \times$ apothem $\times$ perimeter

$= \frac{1}{2} \times 2.75 \times 20 =$ **27.5 in²**

Find the perimeter and area of each polygon. Round the answer to two decimal places.

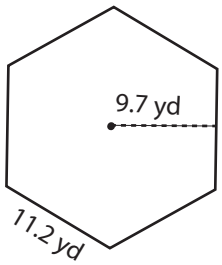
1)



Perimeter = _____

Area = _____

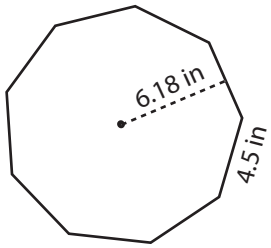
2)



Perimeter = _____

Area = _____

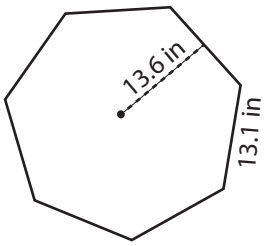
3)



Perimeter = _____

Area = _____

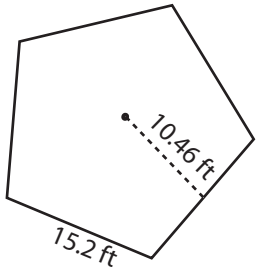
4)



Perimeter = _____

Area = _____

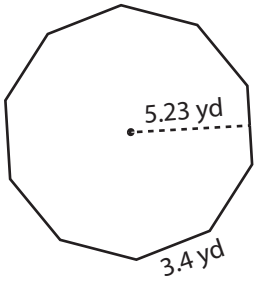
5)



Perimeter = _____

Area = _____

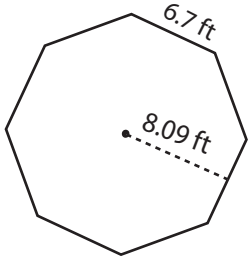
6)



Perimeter = _____

Area = _____

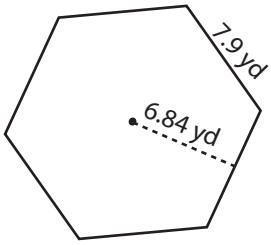
7)



Perimeter = _____

Area = _____

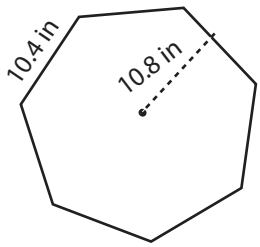
8)



Perimeter = _____

Area = _____

9)



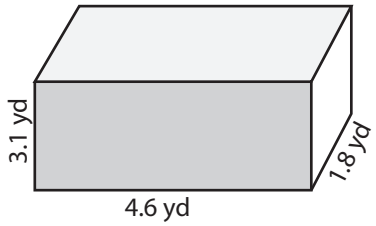
Perimeter = _____

Area = _____

Volume - Rectangular Prism

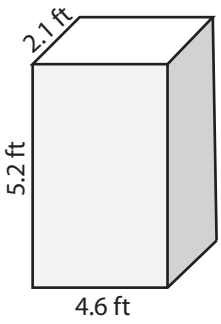
Find the volume of each rectangular prism. Round the answer to nearest tenth.

1)



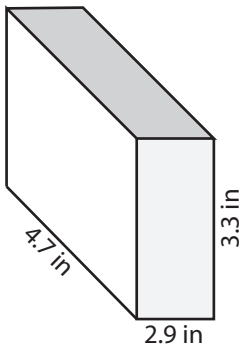
Volume = _____

2)



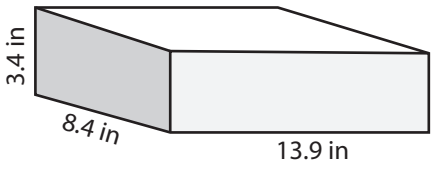
Volume = _____

3)



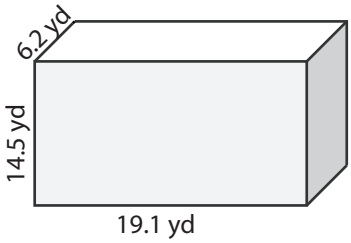
Volume = _____

4)



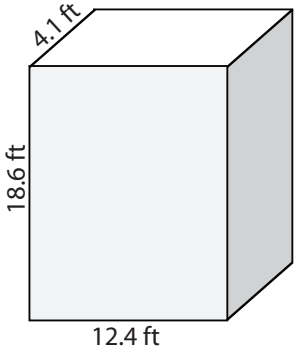
Volume = _____

5)



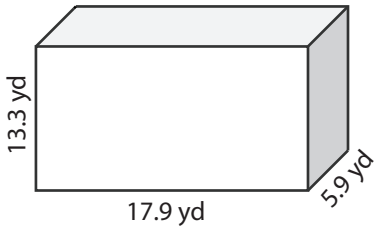
Volume = _____

6)



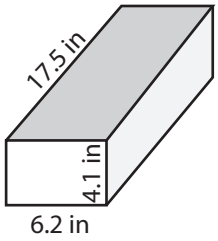
Volume = _____

7)



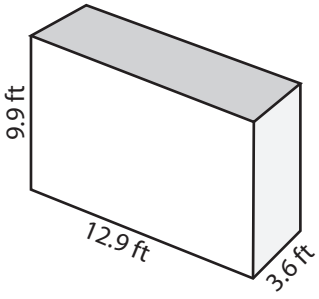
Volume = _____

8)



Volume = _____

9)



Volume = _____

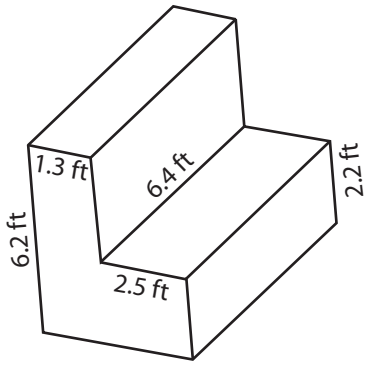
10) A cargo container has a length of 14.6 inches, a width of 7.3 inches and a height of 7.3 inches. Find the volume of the container.

Volume = _____

Volume of L-Blocks

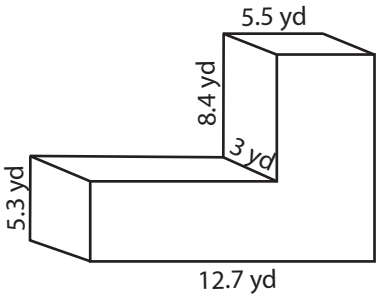
Find the volume of each L-block. Round the answer to two decimal places.

1)



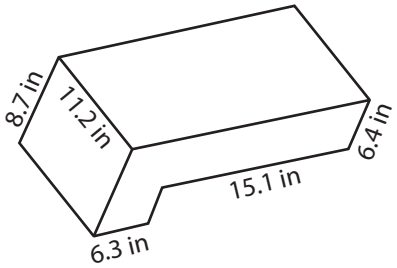
Volume = _____

2)



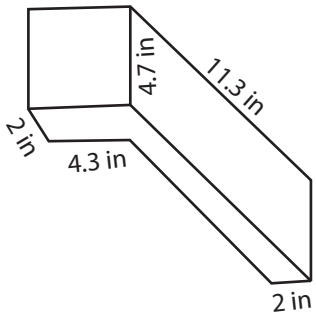
Volume = _____

3)



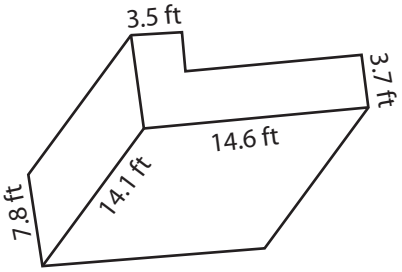
Volume = _____

4)



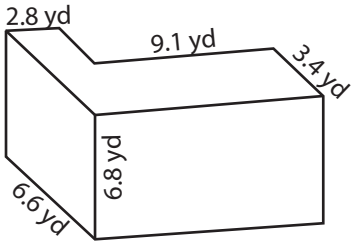
Volume = _____

5)



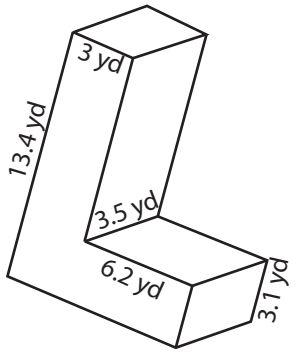
Volume = _____

6)



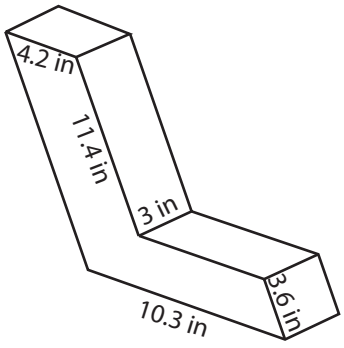
Volume = _____

7)



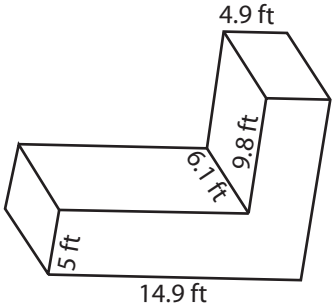
Volume = _____

8)



Volume = _____

9)



Volume = _____