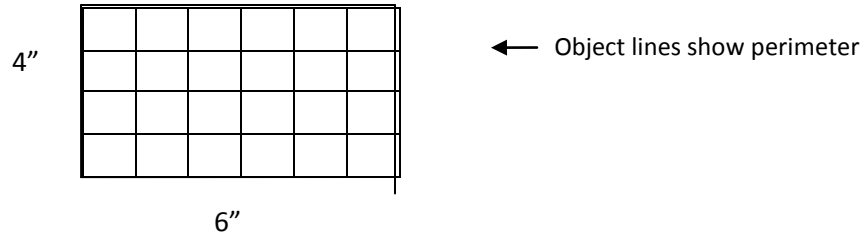


AREA OF A RECTANGLE/SQUARE

While perimeter is the linear measurement around something, **AREA** is like a blanket completely covering the space inside the perimeter. When looking for something you've lost, you search "every square inch" – that's the area.



You can literally count the squares to find the area or multiply the length times the width.

A = l x w 6" x 4" is 6 x 4 (24) but also inches x inches (square inches). The area of the above rectangle is 24 square inches. **AREA ANSWERS ARE ALWAYS GIVEN IN SQUARE MEASUREMENTS.**

(to make sure you remember this, multiply the measurement first and write square (ft. or in.) in the answer space before doing the math)

$$A = l \times w$$

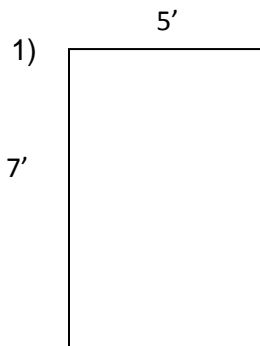
$$A = 6'' \times 4''$$

$$A = \text{"} \times \text{"} \text{ sq. inches}$$

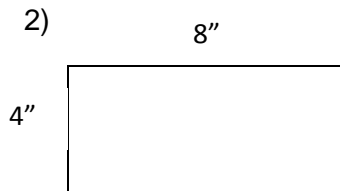
$$A = 6 \times 4 = 24 \text{ sq. inches}$$

Practice:

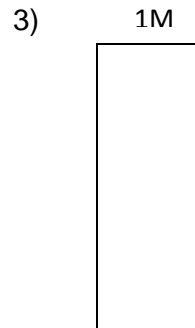
Draw lines to form squares in these boxes, then figure out the area of each:



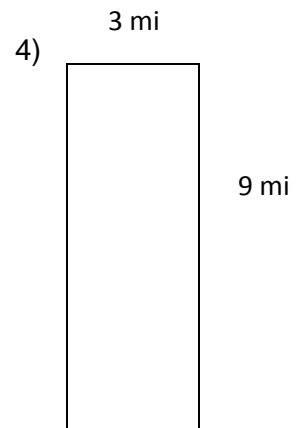
A _____



A _____

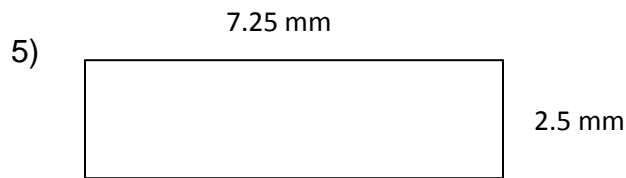


A _____

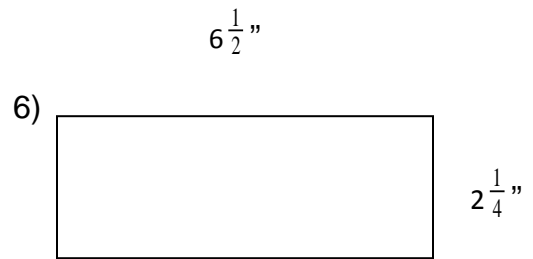


A _____

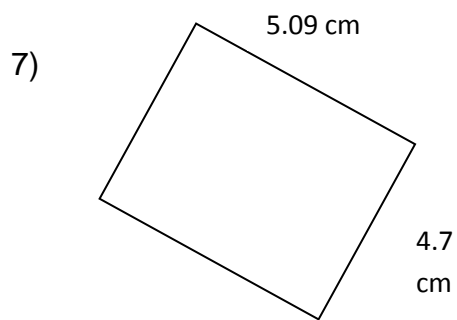
Find the area of the following:



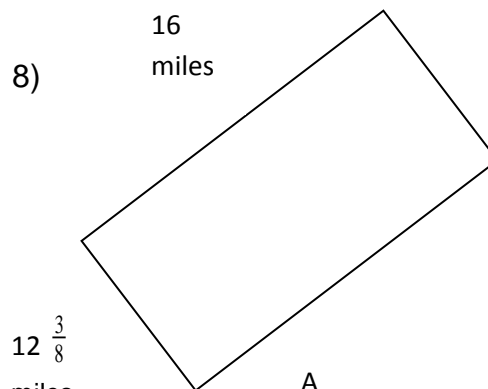
A _____



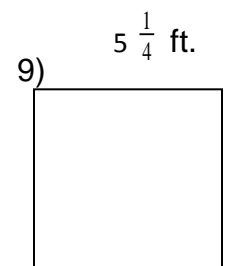
A _____



A _____



A _____



A _____

10) A closet 1.75' by 3' _____

11) A rectangle, $\frac{5}{8}$ " x 2" _____

12) A field, 88.3 km on each side _____

13) A rectangle, $2\frac{2}{3}$ ' x $8\frac{1}{8}$ ' _____

14) A dollar bill, 6.7 cm x 15.5 cm _____

15) A pool $1\frac{1}{3}$ " x $4\frac{1}{8}$ " _____

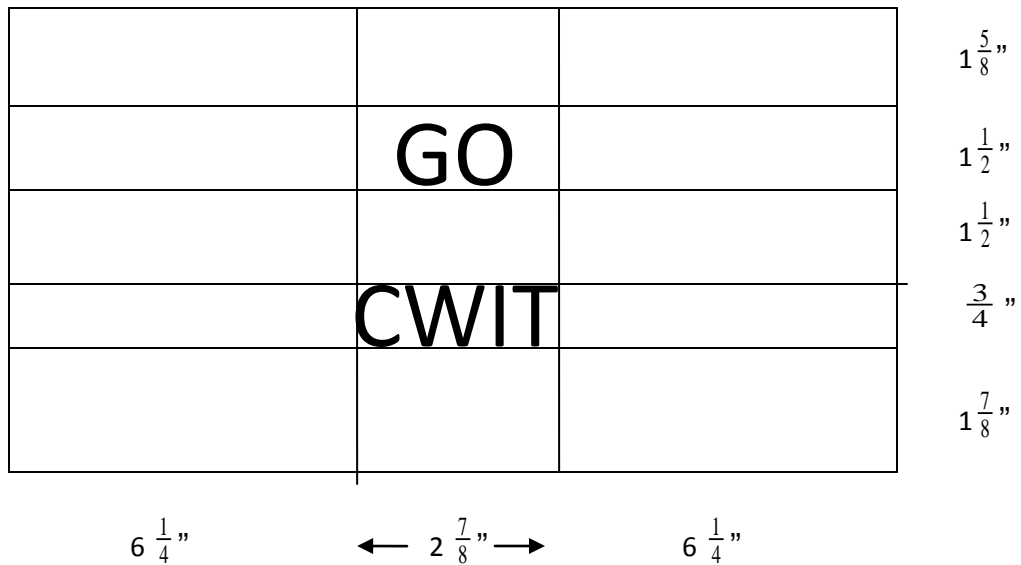
16) A rectangle, $7\frac{1}{2}$ miles x $1\frac{1}{2}$ miles _____

17) A photo, 6.5 cm x 8.2 cm _____



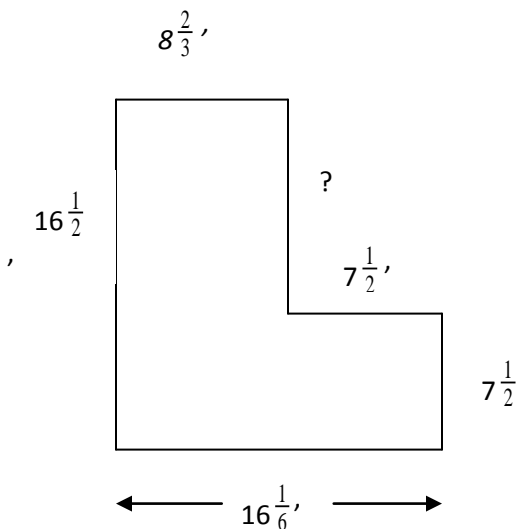
Extra Challenge:

After finding the length and width of this sign do problems 18) & 19)



18) Find the area $A =$ _____ 19) Find the perimeter $P =$ _____

20) The area of a room is $420\frac{1}{4}$ sq. feet. The length of the room is $20\frac{1}{2}$ feet. What is the width?



21) Find the length of the ? side. _____

22) Find the perimeter _____

23) Divide the shape into 2 rectangles/squares, find the area of each and then add them to find the area of this shape. _____



AREA OF A TRIANGLE

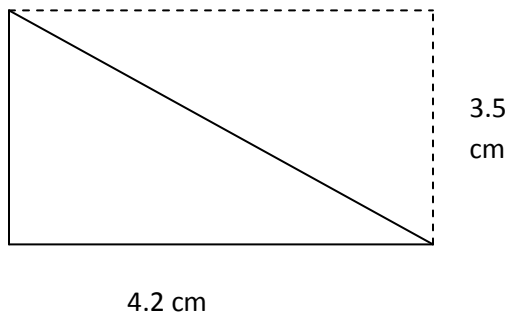
Because every rectangle contains 2 equal size triangles, the area of a triangle is half that of a rectangle.

You may continue to use **L** and **W** or substitute base for length and height for width.

Either way, **DIVIDE BY 2**. For decimals, **Area = (b x h) ÷ 2**, for fractions, **Area = (b x h) x $\frac{1}{2}$** .

Once again, you are also multiplying units of measurement (inches, cm, ft., etc.) so your answer must be in square measurements.

Example:



$$A = b \times h \div 2$$

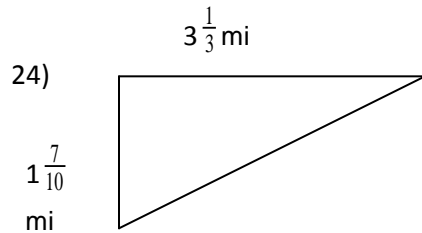
$$A = 4.2 \text{ cm} \times 3.5 \text{ cm} \div 2$$

$$A = \text{ cm} \times \text{ cm} = \text{ sq. cm}$$

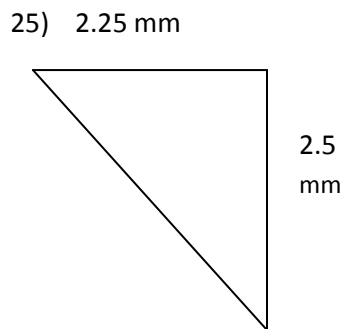
$$A = 14.7 \text{ sq cm} \div 2 = 7.35 \text{ sq cm}$$

- The height must be perpendicular (at right angles) to the base.
- **never use the hypotenuse (or any other slanted line) for height.**

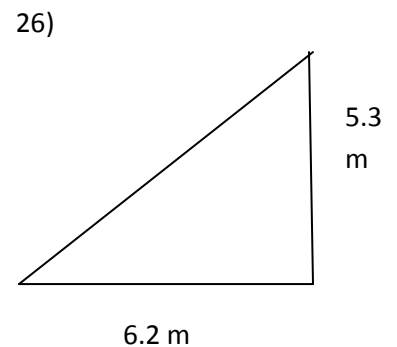
Find the area of the following:



24) A = _____



25) A = _____



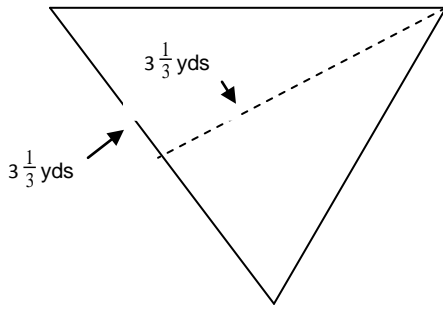
26) A = _____



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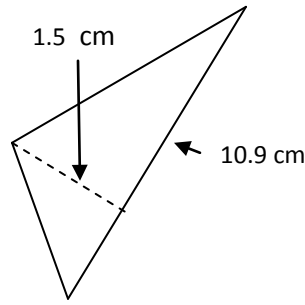
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27)



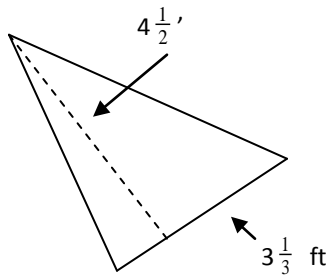
27) A = _____

28)



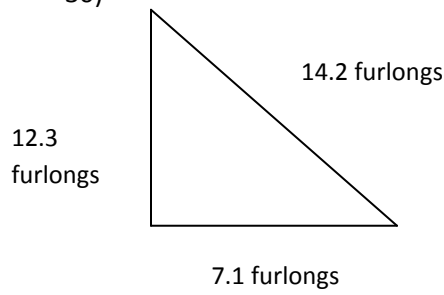
28) A = _____

29)



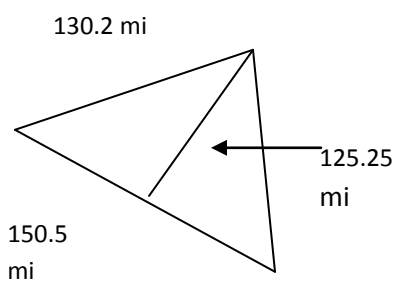
29) A = _____

30)



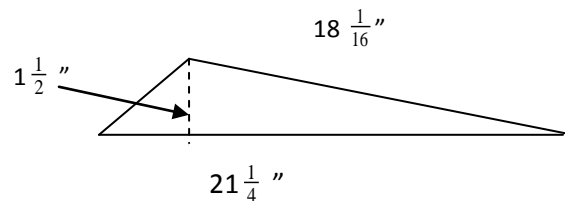
30) A = _____

31)



31) A = _____

32)



32) A = _____

Remember: the height and base must be at right angles to each other



Find the area of a triangle with these measurements

33) Base 10.3 mm, height 17.6 mm

34) Base $7\frac{1}{2}'$, height $\frac{1}{3}'$

35) Base $\frac{1}{2}"$, height $1\frac{1}{8}"$

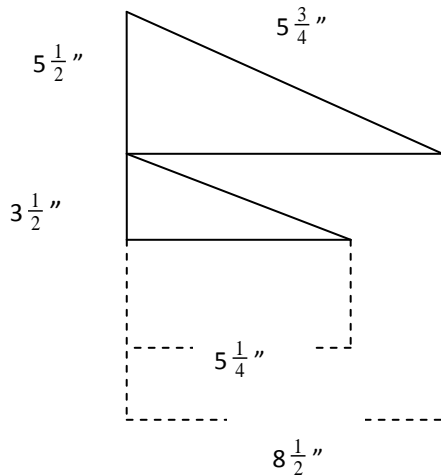
36) Base .2 cm, height .156 cm

37) Base $2\frac{3}{4}"$, height $\frac{5}{8}"$

38) Base $3\frac{2}{4}$ ft, height $4\frac{3}{4}$ ft.

39) Base 15.8 M, height 4.35 M

EXTRA CHALLENGE:



40) Find the area of the top triangle

A = _____

41) Area of the bottom triangle

A = _____

42) Combined area of both triangles

A = _____

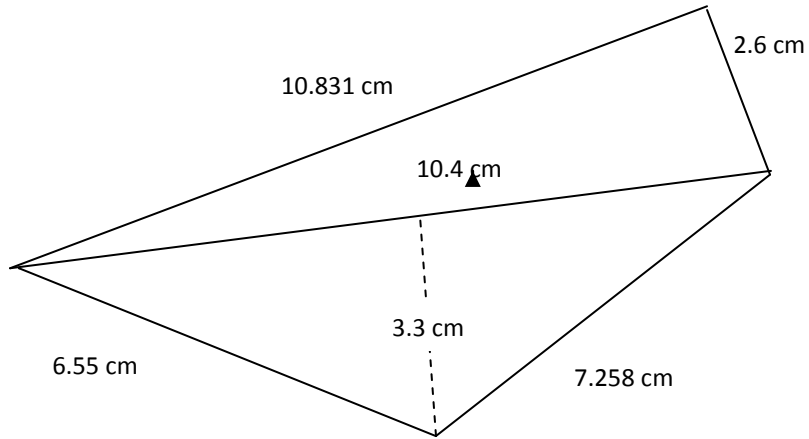
43) Perimeter of top triangle

P = _____



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44) Area of top triangle:

45) Area of bottom triangle:

46) Area of combined triangles:

47) Perimeter of top triangle:

48) Perimeter of bottom triangle:

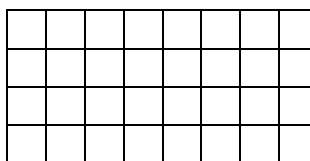
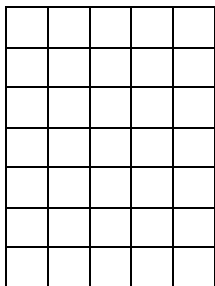
49) Perimeter of the whole figure:

Answer key

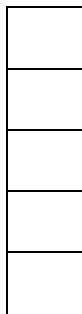
1) Area = 35 sq. ft.

2) Area = 32 sq.in.

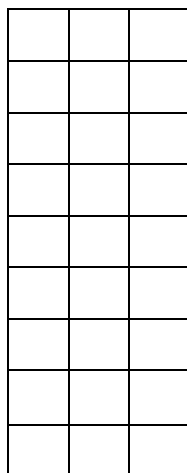




3) Area = 5 sq. M



4) Area = 27 sq. mi.



5) 18.125 sq. mm

6) $14 \frac{5}{8}$ sq.”

7) 23.923 sq. cm

8) 198 sq. miles

9) $27 \frac{9}{16}$ sq. ft

10) 5.25 sq.’

11) $1 \frac{1}{4}$ sq.”

12) 7796.89 sq. km

13) $21 \frac{2}{3}$ sq. ft

14) 103.85 sq. cm

15) $5 \frac{1}{2}$ sq.”

16) $11 \frac{1}{4}$ sq. miles

17) 53.3 sq. cm

18) $A = 111 \frac{15}{32}$ sq. “

19) $P = 45 \frac{1}{4}$ in.

20) $20 \frac{1}{2}$ ft.

21) 9’

22) $65 \frac{1}{3}$,

23) $199 \frac{1}{4}$ sq. ft.

24) 73.43 sq. cm.

Answer key continued



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**Area of a Triangle
Answer Key**

25) $2 \frac{5}{6}$ sq. mi.

26) 2.8125 sq. acres

27) 16.43 sq. M

28) $5 \frac{5}{9}$ sq. yds

29) 8.175 sq. cm

30) $7 \frac{1}{2}$ sq. ft.

31) 43.665 sq. furlongs

32) 9425.0625 sq. mi.

33) $15 \frac{15}{16}$ sq. “

34) 90.64 sq. mm

35) $1 \frac{1}{4}$ sq. ‘

36) $\frac{9}{32}$ sq. “

37) .0156 sq. cm

38) $\frac{55}{64}$ sq. “

39) $8 \frac{5}{16}$ sq. ft.

40) 34.365 sq. M

41) $A = 23 \frac{3}{8}$ sq. “

42) $A = 9 \frac{3}{16}$ sq. “

43) $A = 32 \frac{9}{16}$ sq. “

44) $P = 19 \frac{3}{4}$ “

45) $A = 14.0803$ sq. cm

46) $A = 17.16$ sq. cm.

47) $A = 31.2403$ sq. cm

48) $P = 23.831$ cm

49) $P = 24.208$ cm

50) $P = 27.239$ cm

