

Angles 3

1. Calculate the angles. Do not try to measure, because the pictures are not exact.

a. angle ABC = _____

b. angle DAC = _____

c. angle BAC = _____

d. angle CAD = _____ angle EAB = _____

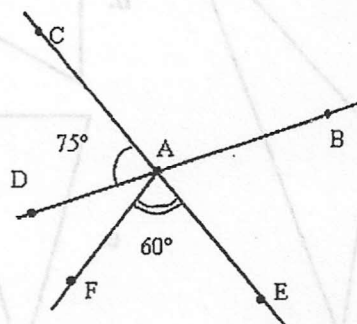
2. Draw two lines intersecting each other. Measure ONE angle. Figure out all the other angles - then check by actually measuring from your picture. Repeat as needed.

3. Calculate the angles. Note: do not try to measure, because the picture is not exact.

Angle CAB = _____

Angle DAF = _____

Angle EAB = _____

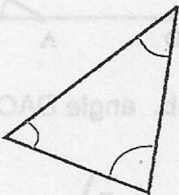
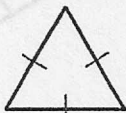
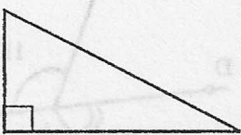


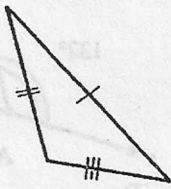


4. Draw a point on a piece of paper, with at least two different lines intersecting at that point. Then draw at least two rays starting at the same point. Now give this puzzle for your fellow student to solve (or solve it yourself):

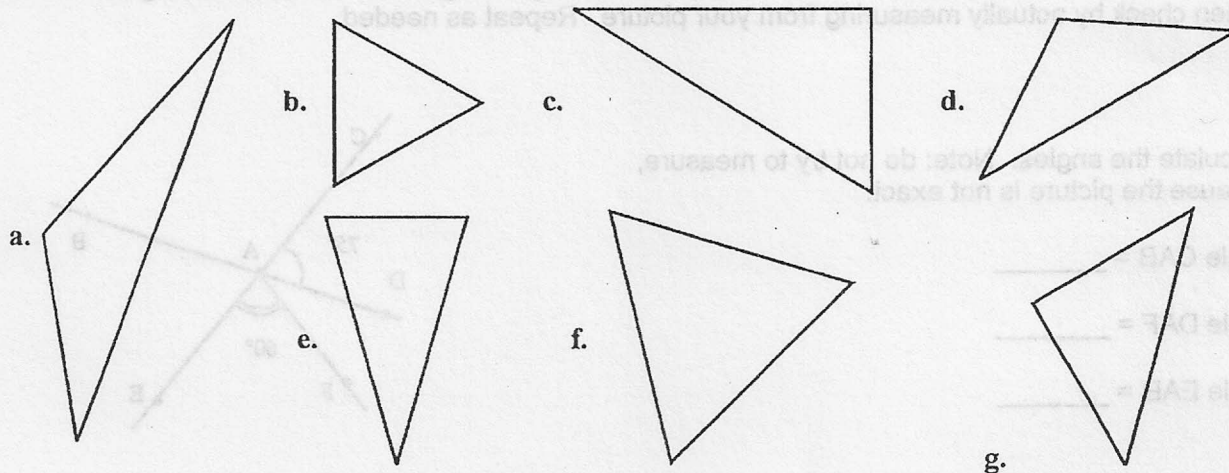
- What is the minimum number of angles that you must measure before you can calculate the rest? Which angles are they?

Classify Triangles

Triangles can be classified by two ways: by their angles, or by their side lengths.

| Classification according to angles | Classification according to sides |
|---|---|
| <p>1. An acute triangle: All three angles are acute.</p>  | <p>1. An equilateral triangle: All three sides are congruent. (The little tick marks mean that those sides are congruent.)</p>  |
| <p>2. A right triangle: One angle is right, and the other two are _____.</p>  | <p>2. An isosceles triangle: At least two sides are congruent. (The little tick marks mean that those sides are congruent.)</p>  |
| <p>3. An obtuse triangle: One angle is obtuse, and the other two are _____.</p>  | <p>3. A scalene triangle: All sides are of different lengths. (The tick mark, double tick mark, and triple tick mark mean that those sides are <i>not</i> congruent.)</p>  |

1. Classify these triangles both according to their angles and according to their sides.



a. _____

b. _____

c. _____

d. _____

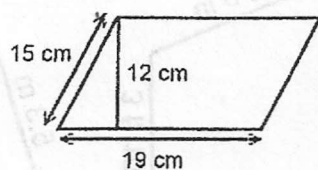
e. _____

f. _____

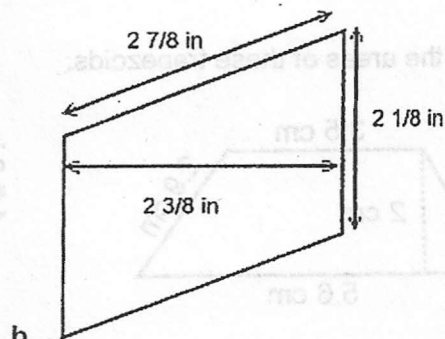
g. _____

Area of Triangle and Parallelogram 1

1. Find the area of these parallelograms.

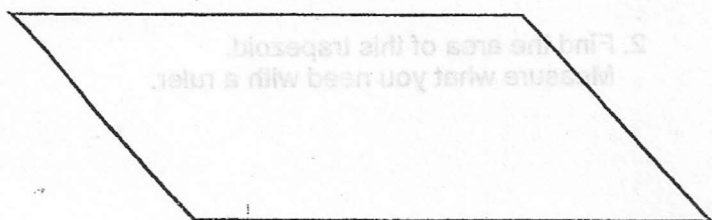


a.

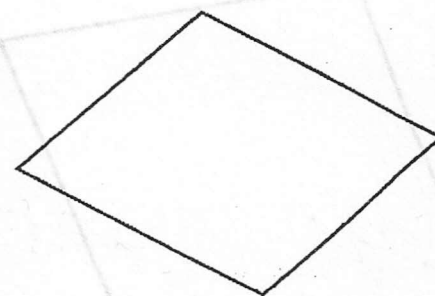


b.

2. Find the areas of these parallelograms, either in square millimeters or square inches.

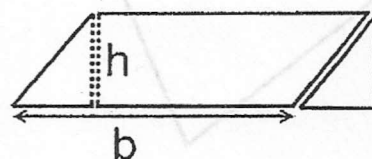


a.



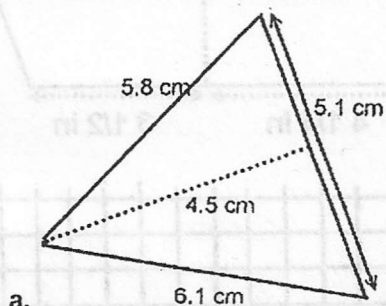
b.

3. How can we use this picture to show that the area of a parallelogram is its height times its base?

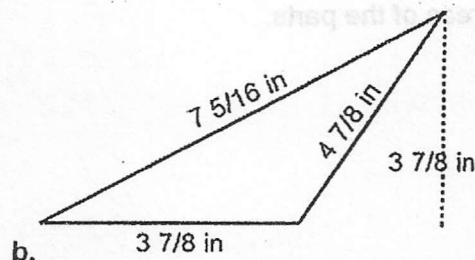


b

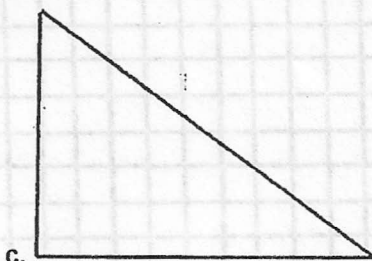
4. Find the area of these triangles.



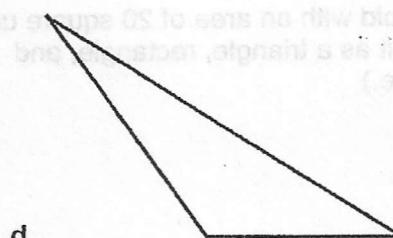
a.



b.



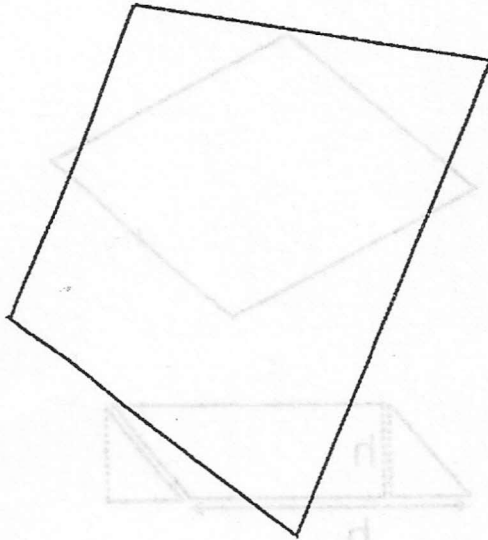
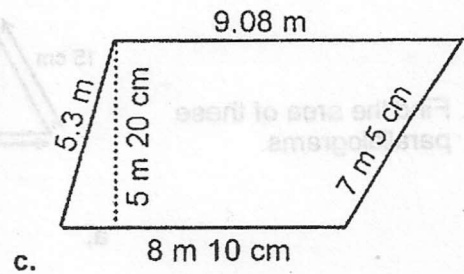
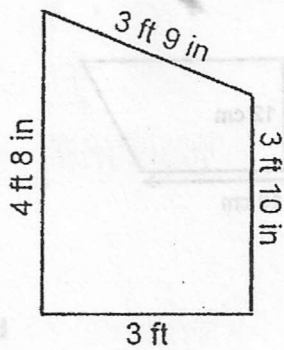
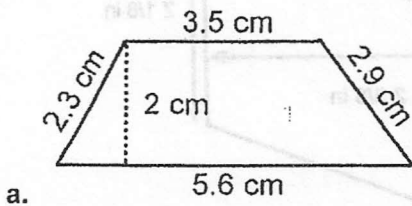
c.



d.

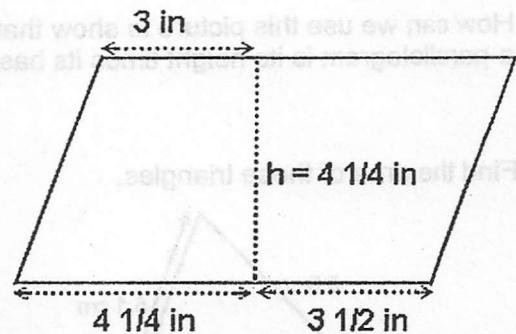
Area of Trapezoid

1. Find the areas of these trapezoids.



2. Find the area of this trapezoid.
Measure what you need with a ruler.

3. A parallelogram is divided into two parts with the altitude line h .
Find the areas of the parts.



4. Draw a trapezoid with an area of 20 square units.
(Hint: consider it as a triangle, rectangle, and another triangle.)

