

Lesson 2.2 – Angles, Parallel Lines & Transversals, Shapes & Polygons

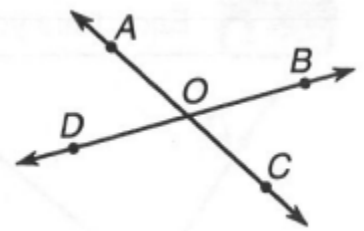
I. Angle Relationships

If the sum of the measures of two angles is 180° , the angles are _____.

If the sum of the measures of two angles is 90° , the angles are _____.

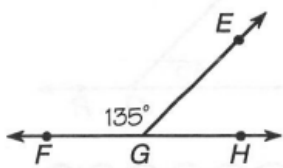
When two angles in a plane share a vertex and a side, but no common interior points, they are called _____ angles, like $\angle AOB$ and $\angle AOD$.

When two lines intersect, they form two pairs of “opposite” angles called _____ angles, like $\angle AOB$ and $\angle COD$.

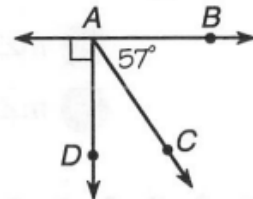


1. Use the given angles to find the stated angle.

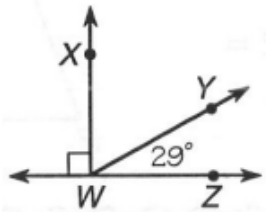
(a) $m\angle EGH$



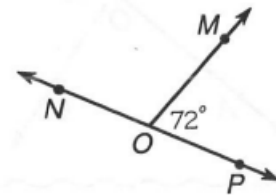
(b) $m\angle DAC$



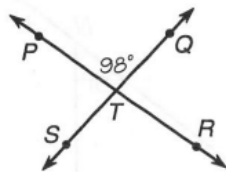
(c) $m\angle XWY$



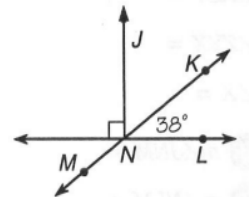
(d) $m\angle MON$



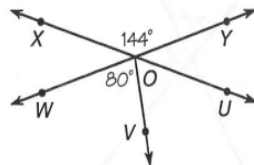
(e) $m\angle STR$ and $m\angle PTS$



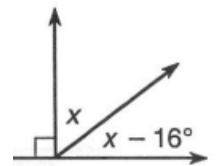
(f) $m\angle JNK$ and $m\angle MNL$



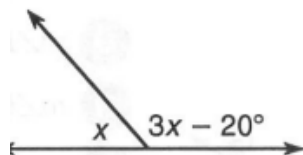
(g) $m\angle YOU$ and $m\angle UOV$



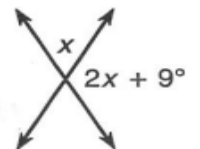
(h) Solve for x.



(i) Solve for x.



(j) Solve for x.



II. Parallel Lines and Transversals

A _____ is the name given to a line that crosses two parallel lines.

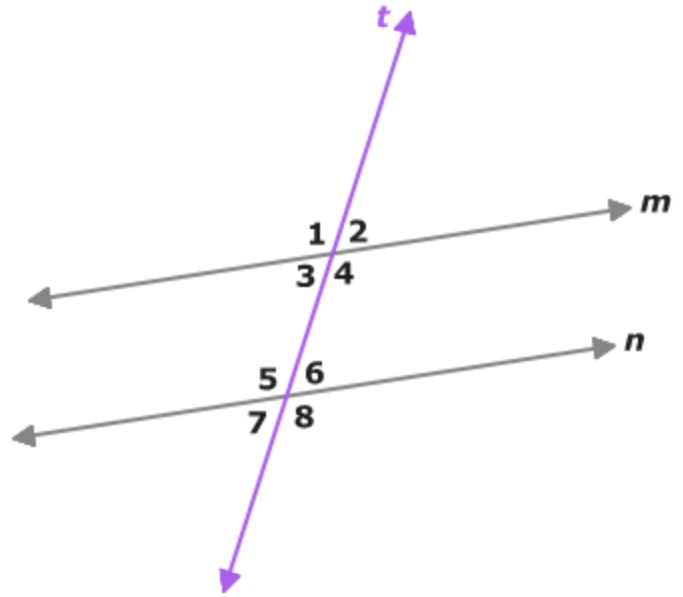
Angles $\angle 1$ and $\angle 5$ are called _____ angles. They are _____ in value to each other.

Angles $\angle 1$ and $\angle 4$ are called _____ angles. They are also _____ in value to each other. Angles $\angle 5$ and $\angle 8$ are vertical angles too.

Since $m\angle 1 = m\angle 5$, and $m\angle 1 = m\angle 4$, and $m\angle 5 = m\angle 8$, then, $m\angle 1 = m\angle 4 = m\angle 5 = m\angle 8$.

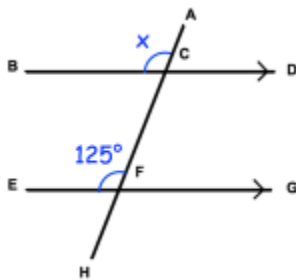
Angles $\angle 4$ and $\angle 5$ are called _____ angles. Angles $\angle 1$ and $\angle 8$ are called _____ angles. They are all equal in value to each other.

Angles $\angle 3$ and $\angle 5$ are called _____ angles. Since angles $\angle 4$ and $\angle 5$ are equal, that means angles $\angle 3$ and $\angle 5$ are _____ to each other.

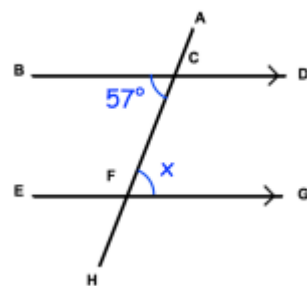


2. Find the angle x in each question below.

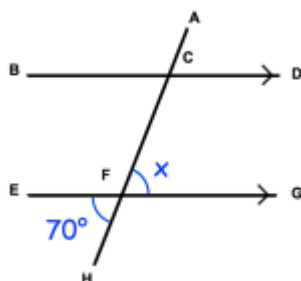
(a)



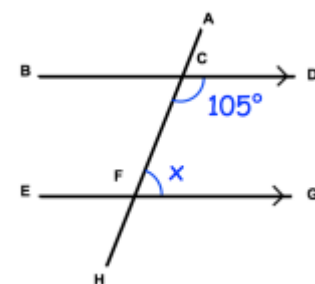
(b)



(c)

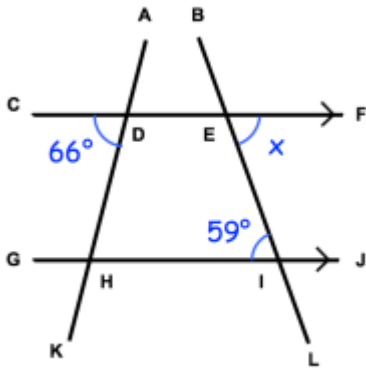


(d)

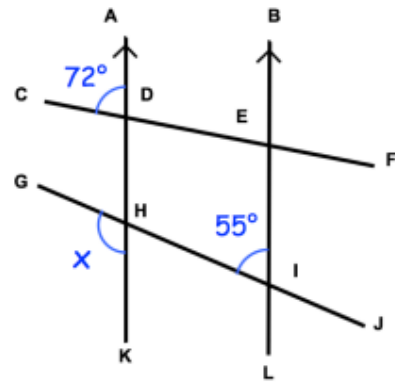


3. Find the angle x in each question below. There are distractors in these ones.

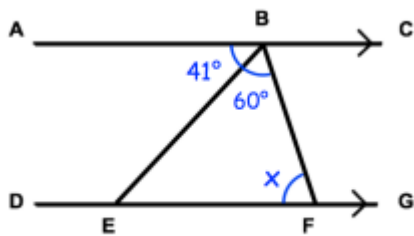
(a)



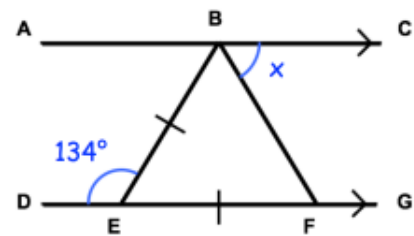
(b)



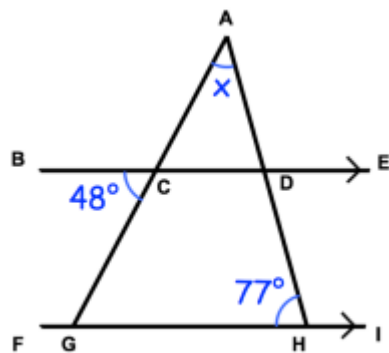
(c)



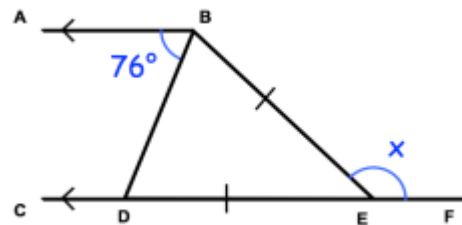
(d)



(e)

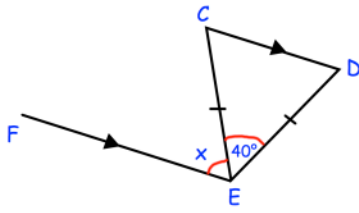


(f)

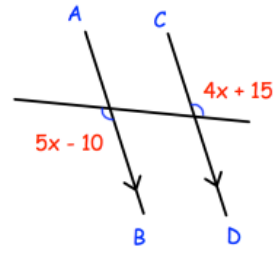


4. Solve for x.

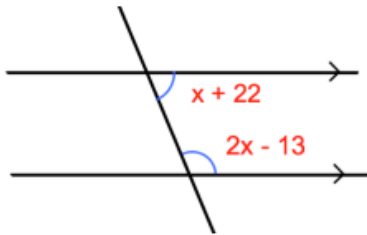
(a)



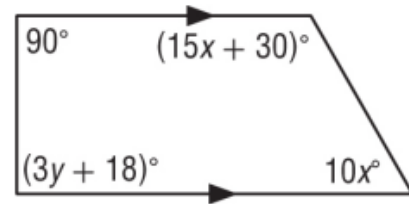
(b)



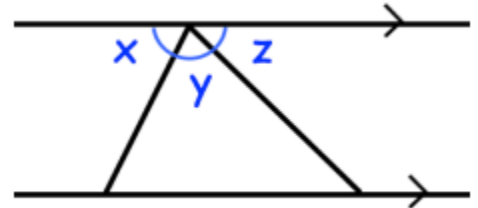
(c)



(d)



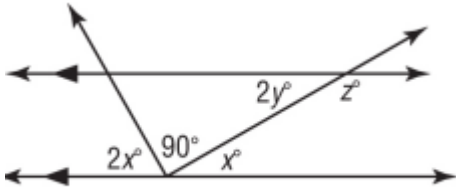
(e) Using the following diagram, prove that the angles inside of a triangle add up to 180° .



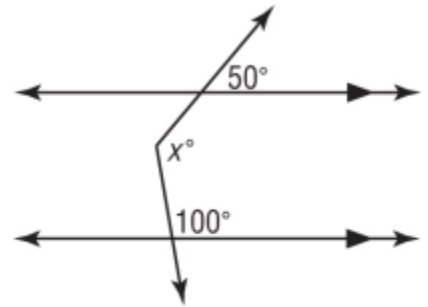
III. More Practice

5. Find the value of all variables in each figure.

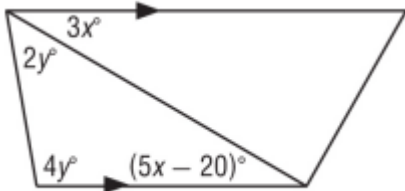
(a)



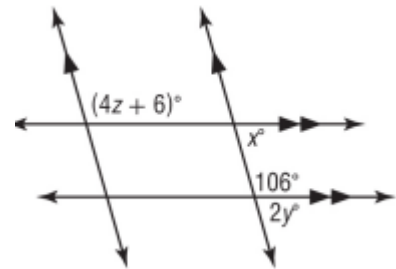
(b)



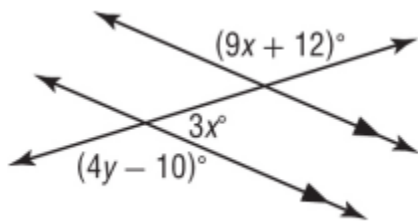
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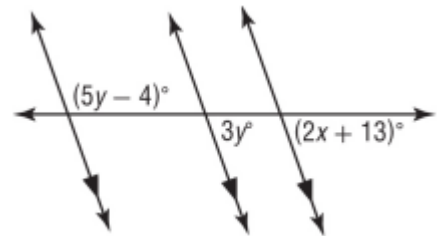
(d)



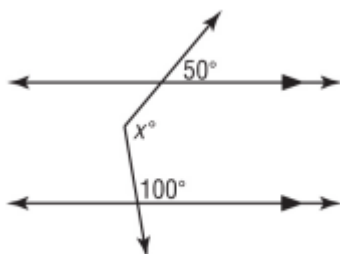
(e)



(f)



(g)



(h)

