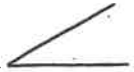


use this one to
photocopy
student

GEOMETRY YOU SHOULD KNOW FROM MATH 8

Angle Properties



Acute $\angle$



Obtuse $\angle$



Complementary $\angle$ s add to 90°



Supplementary $\angle$ s add to 180°



Angles on a line add to 180°
(Supplementary $\angle$'s)



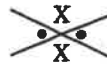
Right $\angle$



Straight $\angle$

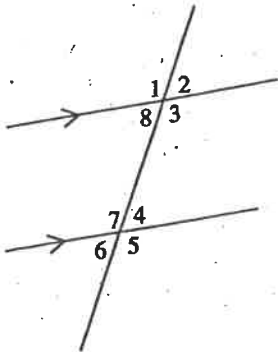


Angles at a point add to 360°



Vertically opposite $\angle$ s are equal

Parallel Lines and Transversal



Corresponding $\angle$ s:

$$\angle 1 = \angle 7, \angle 8 = \angle 6, \\ \angle 2 = \angle 4, \angle 3 = \angle 5.$$

Alternate interior $\angle$ s:

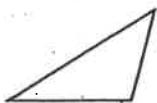
$$\angle 3 = \angle 7, \angle 4 = \angle 8.$$

Interior $\angle$ s on the same side of the transversal:

$$\angle 8 + \angle 7 = 180^\circ, \angle 3 + \angle 4 = 180^\circ.$$

Triangle Properties

$\angle$ sum of a triangle is 180°



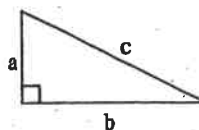
Scalene triangle
— no sides equal
— no $\angle$ s equal



Isosceles triangle
— at least 2 sides equal
— $\angle$ s opposite the equal sides are equal



Equilateral triangle
— 3 sides equal
— 3 $\angle$ s equal (each 60°)



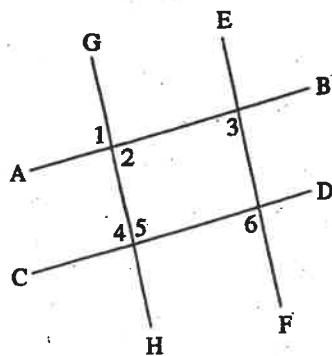
Right triangle
— 1 right angle
— hypotenuse is opposite the right angle
— Property of Pythagoras
 $a^2 + b^2 = c^2$

GEOMETRY YOU SHOULD KNOW FROM MATH 9

Parallel Lines

Lines are parallel if

- alternate interior $\angle$ s are equal
- corresponding $\angle$ s are equal
- interior $\angle$ s on the same side of the transversal are supplementary



If $\angle 5 = \angle 6$,
then $GH \parallel EF$

alternate interior $\angle$ s 5 and 6 are equal

If $\angle 1 = \angle 4$,
then $AB \parallel CD$

corresponding $\angle$ s 1 and 4 are equal

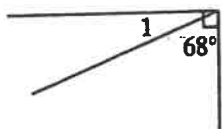
If $\angle 2 + \angle 3 = 180^\circ$,
then $GH \parallel EF$

interior $\angle$ s on the same side of the transversal AB are supplementary

INTERSECTING LINES

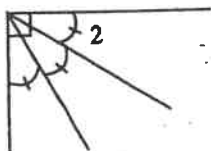
Find the measure of each required angle and give a reason for your answer.

1.



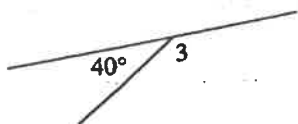
$\angle 1 =$ _____

2.



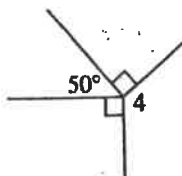
$\angle 2 =$ _____

3.



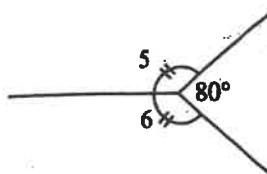
$\angle 3 =$ _____

4.



$\angle 4 =$ _____

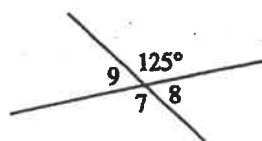
5.



$\angle 5 + \angle 6 =$ _____

$\angle 6 =$ _____

6.

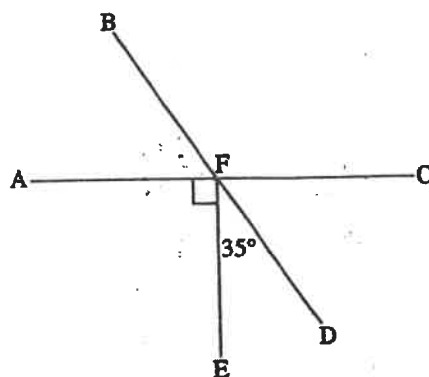


$\angle 7 =$ _____

$\angle 8 =$ _____

$\angle 9 =$ _____

7.



$\angle CFE =$ _____

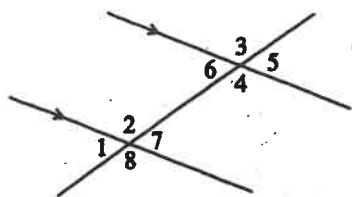
$\angle CFD =$ _____

$\angle BFA =$ _____

$\angle BFC =$ _____

$\angle BFD =$ _____

8.



Identify an angle that is:

a) alternate interior to $\angle 7$

b) corresponding to $\angle 2$

c) interior and on the same side of the transversal to $\angle 4$

d) corresponding to $\angle 4$

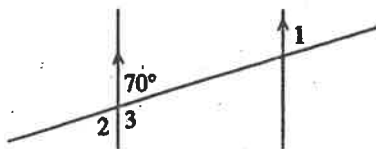
e) vertically opposite to $\angle 6$

f) supplementary to $\angle 3$

g) congruent to $\angle 8$

Find the measure of each required angle and give a reason for your answer.

9.

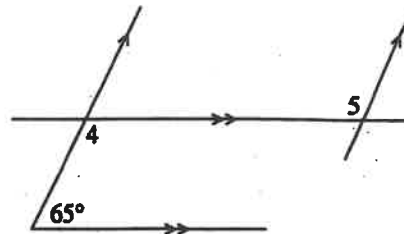


$\angle 1 =$ _____

$\angle 2 =$ _____

$\angle 3 =$ _____

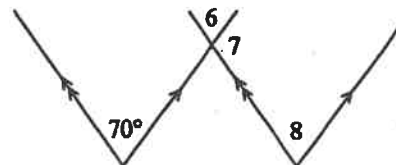
10.



$\angle 4 =$ _____

$\angle 5 =$ _____

11.

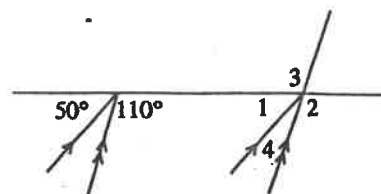


$\angle 6 =$ _____

$\angle 7 =$ _____

$\angle 8 =$ _____

12.



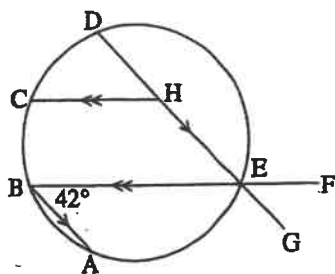
$\angle 1 =$ _____

$\angle 2 =$ _____

$\angle 3 =$ _____

$\angle 4 =$ _____

13.



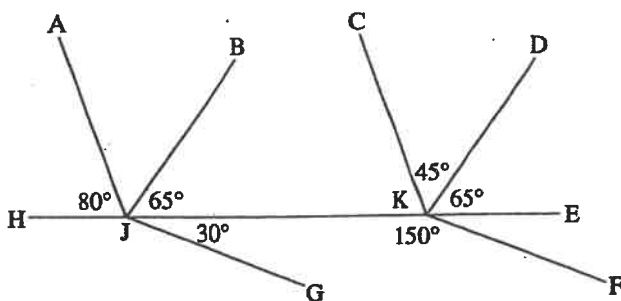
$\angle BEH =$ _____

$\angle EHC =$ _____

$\angle GEF =$ _____

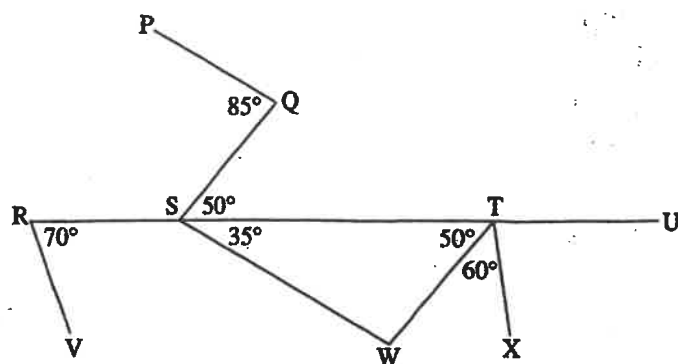
Identify all pairs of segments that look parallel in the diagram. Write a reason why they are or are not parallel.

14.

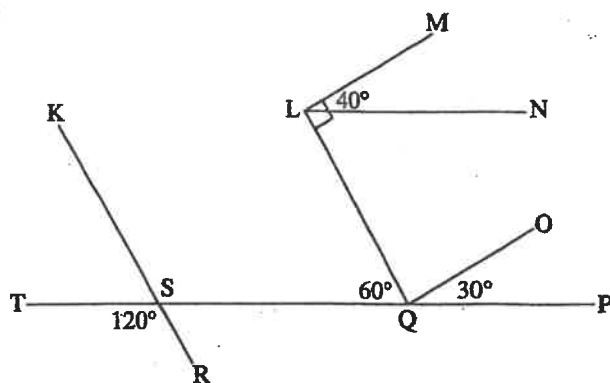


$JB \parallel$ _____

15.



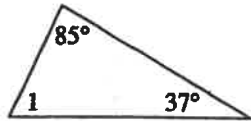
16.



TRIANGLES

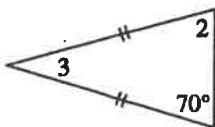
Find the measure of each required angle and give a reason for your answer.

1.



$$\angle 1 = \underline{\hspace{2cm}}$$

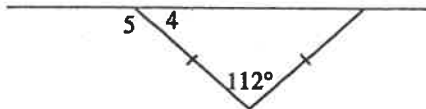
2.



$$\angle 2 = \underline{\hspace{2cm}}$$

$$\angle 3 = \underline{\hspace{2cm}}$$

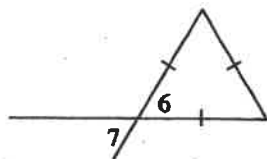
3.



$$\angle 4 = \underline{\hspace{2cm}}$$

$$\angle 5 = \underline{\hspace{2cm}}$$

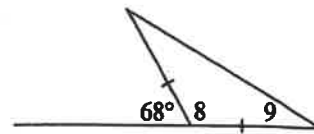
4.



$$\angle 6 = \underline{\hspace{2cm}}$$

$$\angle 7 = \underline{\hspace{2cm}}$$

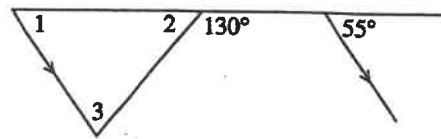
5.



$$\angle 8 = \underline{\hspace{2cm}}$$

$$\angle 9 = \underline{\hspace{2cm}}$$

6.

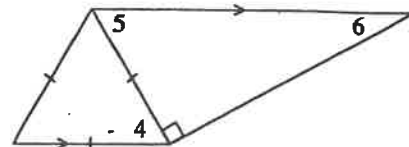


$$\angle 1 = \underline{\hspace{2cm}}$$

$$\angle 2 = \underline{\hspace{2cm}}$$

$$\angle 3 = \underline{\hspace{2cm}}$$

7.

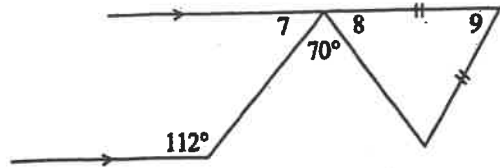


$$\angle 4 = \underline{\hspace{2cm}}$$

$$\angle 5 = \underline{\hspace{2cm}}$$

$$\angle 6 = \underline{\hspace{2cm}}$$

8.

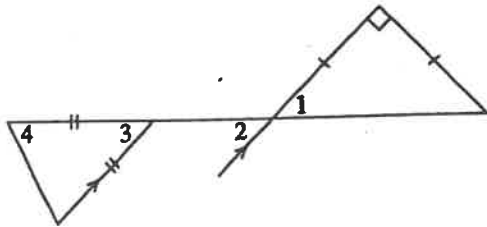


$\angle 7 = \underline{\hspace{2cm}}$

$\angle 8 = \underline{\hspace{2cm}}$

$\angle 9 = \underline{\hspace{2cm}}$

9.



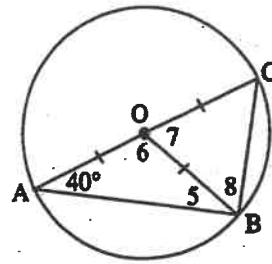
$\angle 1 = \underline{\hspace{2cm}}$

$\angle 2 = \underline{\hspace{2cm}}$

$\angle 3 = \underline{\hspace{2cm}}$

$\angle 4 = \underline{\hspace{2cm}}$

10.



$\angle 5 = \underline{\hspace{2cm}}$

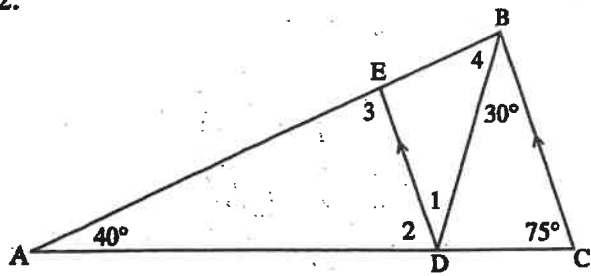
$\angle 6 = \underline{\hspace{2cm}}$

$\angle 7 = \underline{\hspace{2cm}}$

$\angle 8 = \underline{\hspace{2cm}}$

$\angle ABC = \underline{\hspace{2cm}}$

12.



$\angle 1 =$ _____

$\angle 2 =$ _____

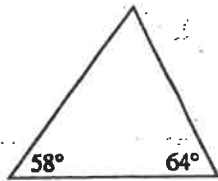
$\angle 3 =$ _____

$\angle ABC =$ _____

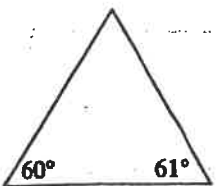
$\angle 4 =$ _____

13. Which is the best description of each triangle — scalene, isosceles, or equilateral? Give a reason for your answer.

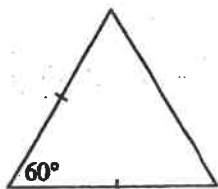
a)



b)

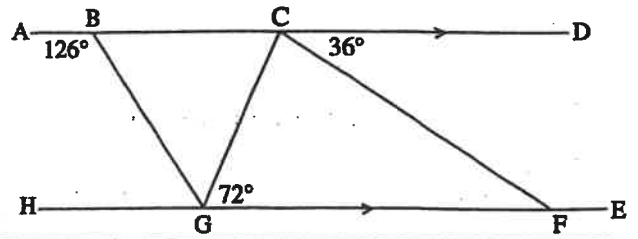


c)

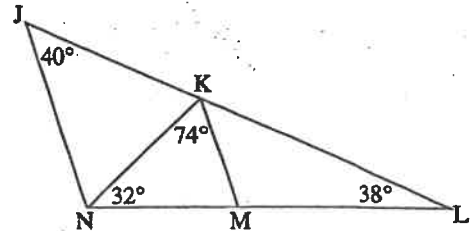


14. Fill in the measures of all the angles in the diagram. Then identify all pairs of congruent segments. Give a reason for each answer.

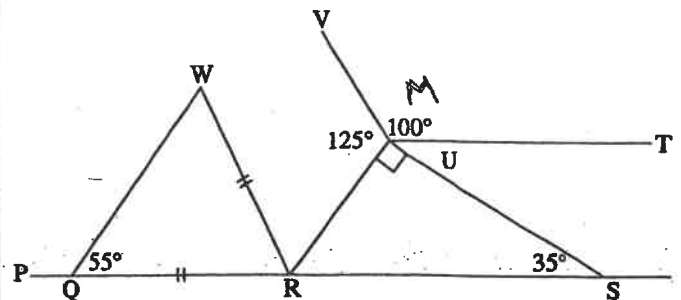
a)



b)



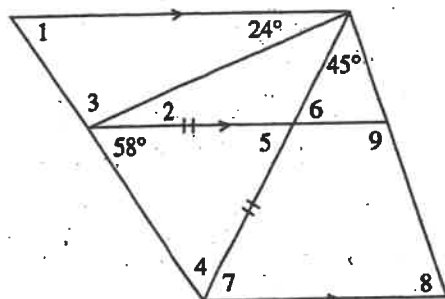
15. Fill in the measures of all the angles in the diagram. Then identify all pairs of parallel segments. Give a reason for each answer.



REVIEW

Find the measure of each angle. Write a reason for each answer.

1.



$$\angle 1 = \underline{\hspace{2cm}}$$

$$\angle 2 = \underline{\hspace{2cm}}$$

$$\angle 3 = \underline{\hspace{2cm}}$$

$$\angle 4 = \underline{\hspace{2cm}}$$

$$\angle 5 = \underline{\hspace{2cm}}$$

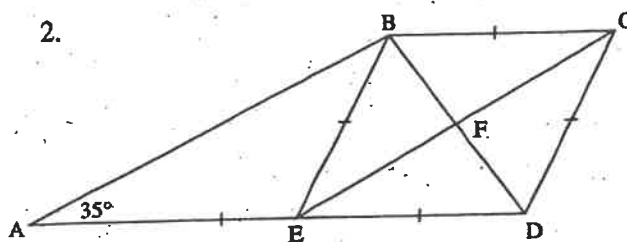
$$\angle 6 = \underline{\hspace{2cm}}$$

$$\angle 7 = \underline{\hspace{2cm}}$$

$$\angle 8 = \underline{\hspace{2cm}}$$

$$\angle 9 = \underline{\hspace{2cm}}$$

2.



BCDE is a

$$\angle ABE = \underline{\hspace{2cm}}$$

$$\angle AEB = \underline{\hspace{2cm}}$$

$$\angle BED = \underline{\hspace{2cm}}$$

$$\angle BCD = \underline{\hspace{2cm}}$$

$$\angle BCF = \underline{\hspace{2cm}}$$

$$\angle BFC = \underline{\hspace{2cm}}$$

$$\angle CBF = \underline{\hspace{2cm}}$$

