

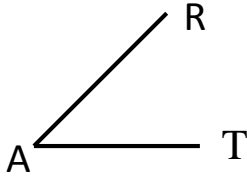
Name: \_\_\_\_\_

## Unit 4 – Geometry

### 4.1 – Introduction to Angles

- An **angle** is the figure formed when two line segments (or rays) have a common endpoint (vertex)
- An angle is named by using either a three letter name (with the vertex the middle letter) or a single letter when there is no confusion about which angle it is

**Example:**



Can be named as: \_\_\_\_\_

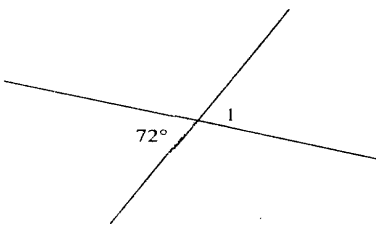
- There are different types of angles:

Type of angle	Definition	Diagram
Acute		
Right		
Obtuse		
Straight		
Reflex		
Complementary		

Supplementary		
Vertically opposite		

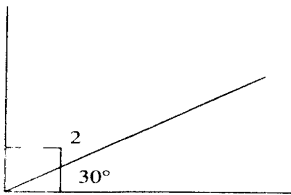
Determine the angle measures in the diagrams below (show your work when possible)

1.



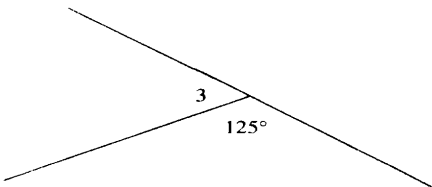
$\angle 1 = \underline{\hspace{2cm}}$

2.



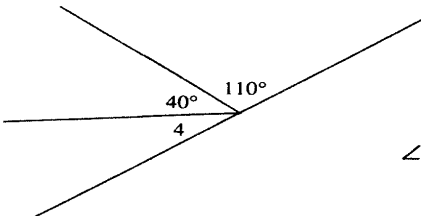
$\angle 2 = \underline{\hspace{2cm}}$

3.



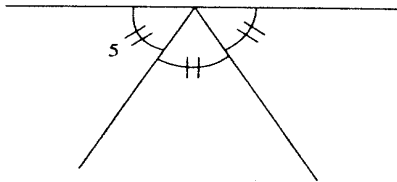
$\angle 3 = \underline{\hspace{2cm}}$

4.



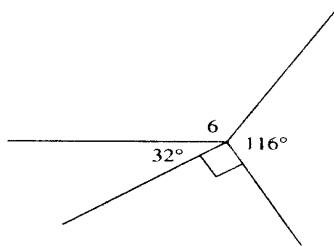
$\angle 4 = \underline{\hspace{2cm}}$

5.



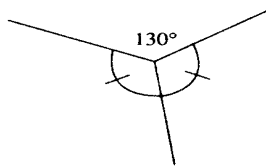
$\angle 5 = \underline{\hspace{2cm}}$

6.



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

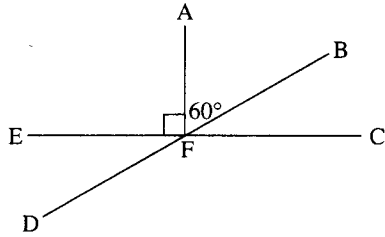
7.



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

**Assignment**

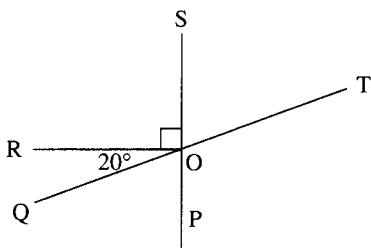
1.



Name: \_\_\_\_\_

- a) 3 acute  $\angle$ s \_\_\_\_\_
- b) 3 obtuse  $\angle$ s \_\_\_\_\_
- c) 2 right  $\angle$ s \_\_\_\_\_
- d) 2 straight  $\angle$ s \_\_\_\_\_
- e) an  $\angle$  of  $30^\circ$  \_\_\_\_\_
- f) an  $\angle$  of  $150^\circ$  \_\_\_\_\_
- g) an  $\angle$  of  $120^\circ$  \_\_\_\_\_
- h) an  $\angle$  vertically opposite to  $\angle EFD$  \_\_\_\_\_
- i) an  $\angle$  congruent to  $\angle AFC$  \_\_\_\_\_

2.

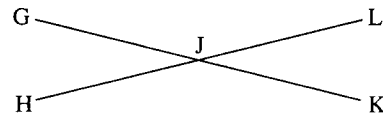


Name: \_\_\_\_\_

- a) an  $\angle$  complementary to  $\angle POQ$  \_\_\_\_\_
- b) an  $\angle$  supplementary to  $\angle QOR$  \_\_\_\_\_
- c) an  $\angle$  supplementary to  $\angle SOT$  \_\_\_\_\_
- d) an  $\angle$  supplementary to  $\angle ROS$  \_\_\_\_\_

- e) an  $\angle$  vertically opposite to  $\angle SOQ$  \_\_\_\_\_
- f) an  $\angle$  vertically opposite to  $\angle QOP$  \_\_\_\_\_
- g) an  $\angle$  congruent to  $\angle ROS$  \_\_\_\_\_
- h) an  $\angle$  of  $110^\circ$  \_\_\_\_\_
- i) an  $\angle$  of  $70^\circ$  \_\_\_\_\_
- j) an  $\angle$  of  $160^\circ$  \_\_\_\_\_

3.

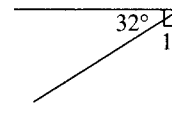


Name: \_\_\_\_\_

- a) 2 pairs of vertically opposite  $\angle$ s \_\_\_\_\_
- b) 2  $\angle$ s supplementary to  $\angle LJK$  \_\_\_\_\_
- c) 2 straight  $\angle$ s \_\_\_\_\_
- d) an  $\angle$  congruent to  $\angle GJL$  \_\_\_\_\_

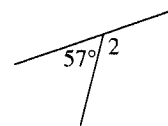
4. Find the measure of each required angle.

a)



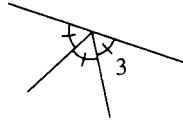
$\angle 1 =$  \_\_\_\_\_

b)



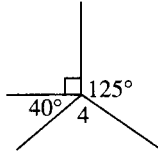
$\angle 2 =$  \_\_\_\_\_

c)



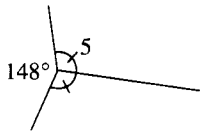
$\angle 3 =$  \_\_\_\_\_

d)



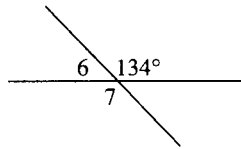
$\angle 4 =$  \_\_\_\_\_

e)



$\angle 5 =$  \_\_\_\_\_

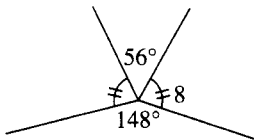
f)



$\angle 6 =$  \_\_\_\_\_

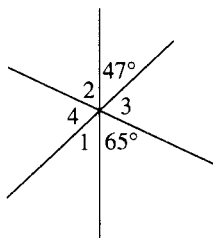
$\angle 7 =$  \_\_\_\_\_

g)



$\angle 8 =$  \_\_\_\_\_

h)



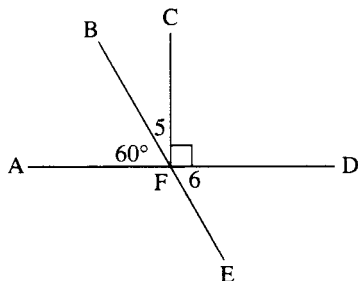
$\angle 1 =$  \_\_\_\_\_

$\angle 2 =$  \_\_\_\_\_

$\angle 3 =$  \_\_\_\_\_

$\angle 4 =$  \_\_\_\_\_

i)

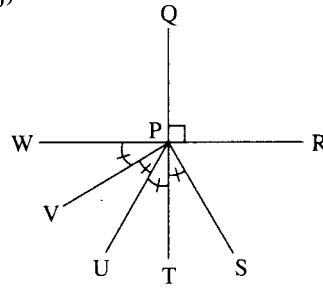


$\angle 5 =$  \_\_\_\_\_

$\angle 6 =$  \_\_\_\_\_

$\angle BFD =$  \_\_\_\_\_

j)



$\angle WPT =$  \_\_\_\_\_

$\angle WPV =$  \_\_\_\_\_

$\angle VPT =$  \_\_\_\_\_

$\angle VPS =$  \_\_\_\_\_

$\angle RPS =$  \_\_\_\_\_

$\angle WPS =$  \_\_\_\_\_

$\angle QPS =$  \_\_\_\_\_

5. True or false?

a) Vertically opposite angles can be right angles.

\_\_\_\_\_

b) Two acute angles can be complementary.

\_\_\_\_\_

c) Two obtuse angles can be supplementary.

\_\_\_\_\_

d) Two congruent angles can be complementary.

\_\_\_\_\_

6. Find the measures of  $\angle A$  and  $\angle B$  if  $\angle A$  and  $\angle B$  are complementary and

a)  $\angle A = \angle B$

\_\_\_\_\_

b)  $\angle A$  is twice  $\angle B$

\_\_\_\_\_

c)  $\angle A$  is  $20^\circ$  more than  $\angle B$

\_\_\_\_\_

d)  $\angle A$  is  $10^\circ$  less than  $\angle B$

\_\_\_\_\_