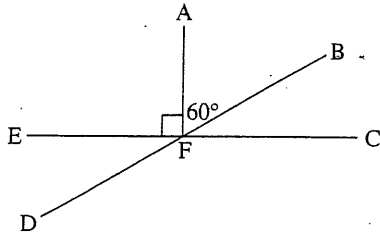


ANGLES: ANSWERS

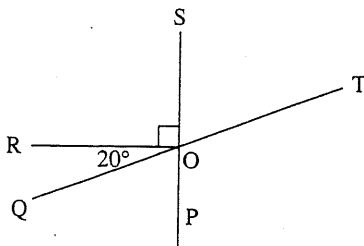
1.



Name:

- a) 3 acute \angle s \angle s AFB, BFC, DFE
- b) 3 obtuse \angle s \angle s EFB, AFD, DFC
- c) 2 right \angle s \angle s AFE, AFC
- d) 2 straight \angle s \angle s EFC, DFB
- e) an \angle of 30° \angle BFC
- f) an \angle of 150° \angle EFB
- g) an \angle of 120° \angle DFA
- h) an \angle vertically opposite to \angle EFD \angle BFC
- i) an \angle congruent to \angle AFC \angle AFE

2.

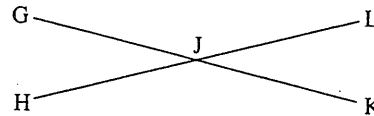


Name:

- a) an \angle complementary to \angle POQ \angle QOR
- b) an \angle supplementary to \angle QOR \angle ROT
- c) an \angle supplementary to \angle SOT \angle TOP
- d) an \angle supplementary to \angle ROS \angle ROP

- e) an \angle vertically opposite to \angle SOQ \angle TOP
- f) an \angle vertically opposite to \angle QOP \angle SOT
- g) an \angle congruent to \angle ROS \angle ROP
- h) an \angle of 110° \angle SOQ, \angle TOP
- i) an \angle of 70° \angle SOT, \angle QOP
- j) an \angle of 160° \angle ROT

3.

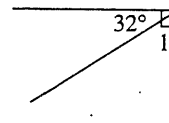


Name:

- a) 2 pairs of vertically opposite \angle s \angle s GJL, HJK
 \angle s GJH, LJK
- b) 2 \angle s supplementary to \angle LJK \angle LJG, \angle KJH
- c) 2 straight \angle s \angle KJG, \angle HJL
- d) an \angle congruent to \angle GJL \angle HJK

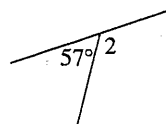
4. Find the measure of each required angle.

a)



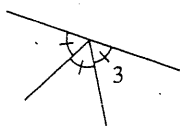
$$\angle 1 = 58^\circ$$

b)



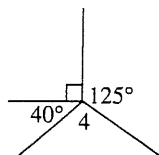
$$\angle 2 = 123^\circ$$

c)



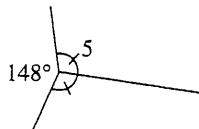
$$\angle 3 = 60^\circ$$

d)



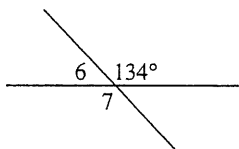
$$\angle 4 = 105^\circ$$

e)



$$\angle 5 = 106^\circ$$

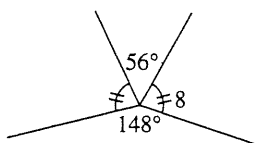
f)



$$\angle 6 = 46^\circ$$

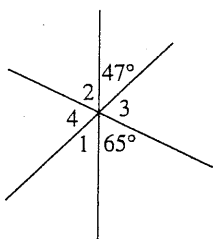
$$\angle 7 = 134^\circ$$

g)



$$\angle 8 = 78^\circ$$

h)



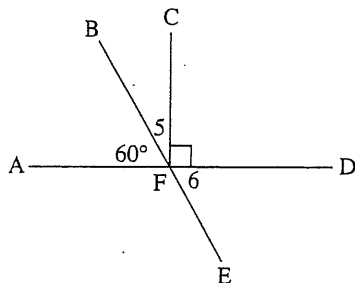
$$\angle 1 = 47^\circ$$

$$\angle 2 = 65^\circ$$

$$\angle 3 = 68^\circ$$

$$\angle 4 = 68^\circ$$

i)

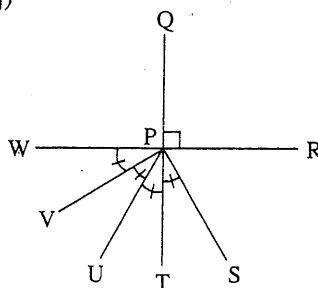


$$\angle 5 = 30^\circ$$

$$\angle 6 = 60^\circ$$

$$\angle BFD = 120^\circ$$

j)



$$\angle WPT = 90^\circ$$

$$\angle WPV = 30^\circ$$

$$\angle VPT = 60^\circ$$

$$\angle VPS = 90^\circ$$

$$\angle RPS = 60^\circ$$

$$\angle WPS = 120^\circ$$

$$\angle QPS = 150^\circ$$

5. True or false?

a) Vertically opposite angles can be right angles.

True

b) Two acute angles can be complementary.

True

c) Two obtuse angles can be supplementary.

False

d) Two congruent angles can be complementary.

True

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

A B

a) $\angle A = \angle B$

45° 45°

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

60° 30°

c) $\angle A$ is 20° more than $\angle B$

55° 35°

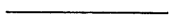
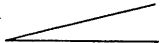
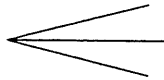
d) $\angle A$ is 10° less than $\angle B$

40° 50°

7. Find the measures of $\angle P$ and $\angle Q$ if $\angle P$ and $\angle Q$ are supplementary and

	P	Q
a) $\angle P = \angle Q$	90°	90°
b) $\angle P$ is twice $\angle Q$	120°	60°
c) $\angle P$ is four times $\angle Q$	144°	36°
d) $\angle P$ is 46° less than $\angle Q$	67°	113°
e) $\angle P$ is 30° more than twice $\angle Q$	130°	50°

8. Complete the following table to show the number of angles formed as more segments are drawn from a point.

# of segments	Diagram	# of \angle s formed	
1		0	
2		1	
3		3	$\frac{3 \cdot 2}{2}$
4		6	$\frac{4 \cdot 3}{2}$
5		10	$\frac{5 \cdot 4}{2}$
6		15	$\frac{6 \cdot 5}{2}$
• • •			
20	predict	190	$\frac{20 \cdot 19}{2}$
N	predict	$\frac{N(N-1)}{2}$	

A similar pattern occurs if reflex \angle s are counted as well.