Chapter-11

Angles

Exercise 11.1

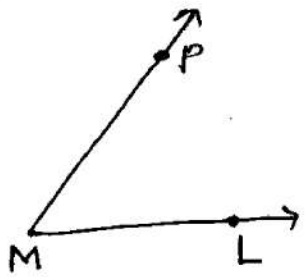
Q.1 Give three examples of angles from your environment.

Solution: (i) Minute hand and hour hand of clock.

(ii) Two blades of scissors

(iii) Angle formed by adjacent fingers of our hands.

Q.2 Write the arms and the vertex of $\angle LMP$ given in fig 11.14

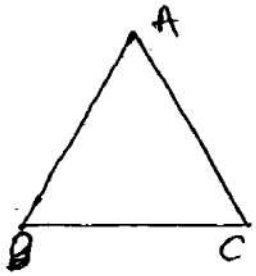


Sol: Arms : ML and MP

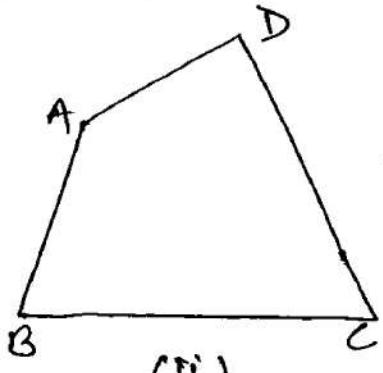
Vertex : M

Q.3 How many angles formed in the figures 11.15(i) (ii) and (iii)? Name them.

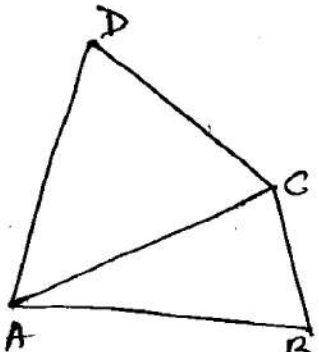
(i)



(i)



(ii)



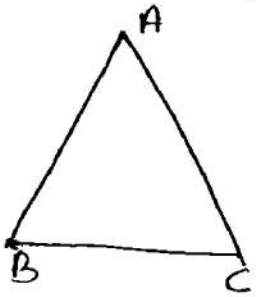
(iii)

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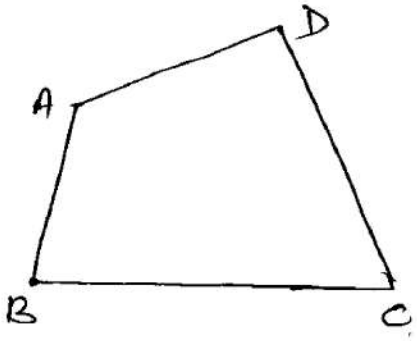
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Solution: (i) Three angles.

$\angle ABC$, $\angle BCA$, $\angle CAB$



(ii) Four angles

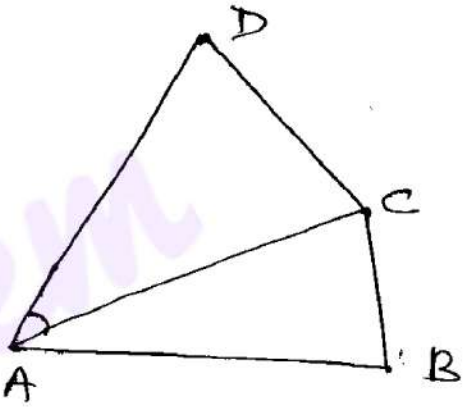


$\angle ABC$, $\angle BCD$, $\angle CDA$, $\angle DAB$

(iii) Eight angles:

$\angle DAC$, $\angle CAB$, $\angle ABC$, $\angle BCA$

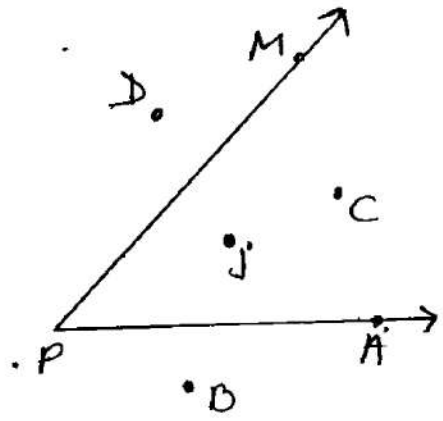
$\angle DCA$, $\angle ADC$, $\angle DAB$, $\angle BCD$



Q.4 In fig 11.16, list the points which are

(i) In the interior of $\angle P$ (ii) In the exterior of $\angle P$

and (iii) lie on $\angle P$



Solution:

(i) In the interior of $\angle P$ are points j and C.

(ii) ~~Ext~~ In the exterior of $\angle P$ are: D and B

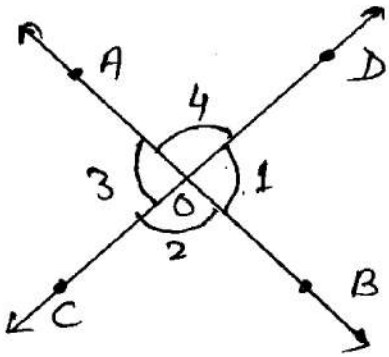
(iii) lie on $\angle P$: A, P, M

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Q5 In fig 11.17, write another name for.

(i) $\angle 1$ (ii) $\angle 2$ (iii) $\angle 3$ (iv) $\angle 4$



Solution

(i) $\angle 1 = \angle DOB$ or $\angle BOD$

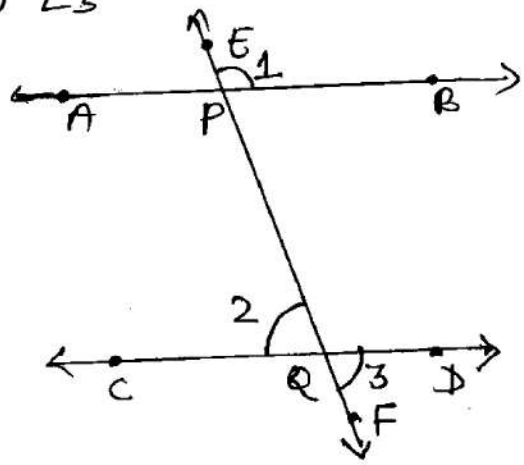
(ii) $\angle 2 = \angle COB$ or $\angle BOC$

(iii) $\angle 3 = \angle AOC$ or $\angle COA$

(iv) $\angle 4 = \angle AOD$ or $\angle DOA$

Q6 In fig 11.18, write another name for:

(i) $\angle 1$ (ii) $\angle 2$ (iii) $\angle 3$



Solution

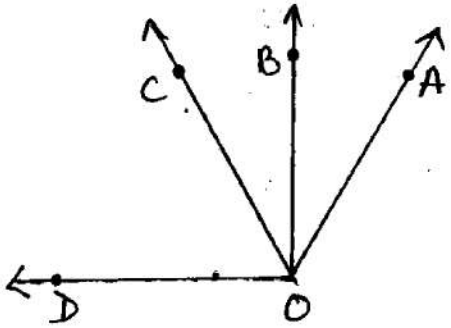
(i) $\angle 1 = \angle EPB$ or $\angle BPE$

(ii) $\angle 2 = \angle CQP$ or $\angle PQC$

(iii) $\angle 3 = \angle DQF$ or $\angle FQD$

Q7 In fig 11.19, which of the following statements are true.

(i) Point B is in the interior of $\angle AOB$



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(ii) Point B is the interior of $\angle AOC$

(iii) Point A is the interior of $\angle AOD$

(iv) Point C is the exterior of $\angle AOB$

(v) Point D is the exterior of $\angle AOC$

Solution: (i) False, B lies on $\angle AOB$

(ii) True

(iii) False, A lies on $\angle AOD$.

(iv) True

(v) True

Q.8 Which of the following statements are true:

(i) The vertex of an angle lies in its interior

(ii) The vertex of an angle lies in its exterior

(iii) The vertex of an angle lies on it.

Sol: (i) False, as vertex lies on the angle.

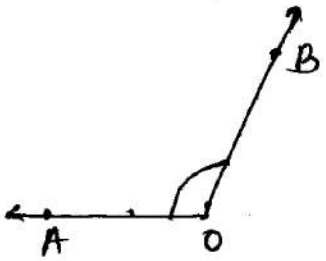
(ii) False

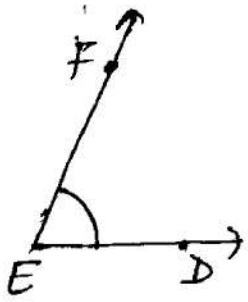
(iii) True

Q.9 By simply looking at the pair of angles given in fig 11.20. State which of the angles in each of the pair is greater.

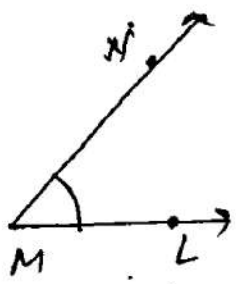
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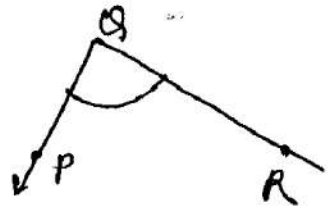
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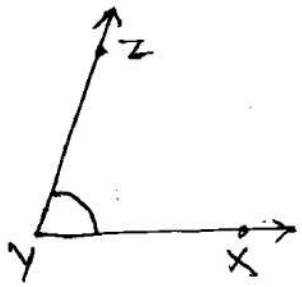
(i)

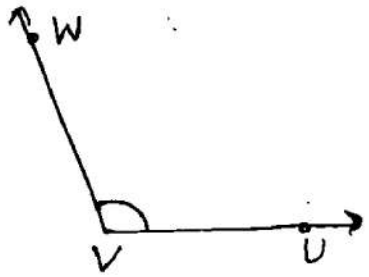




(ii)

Solution





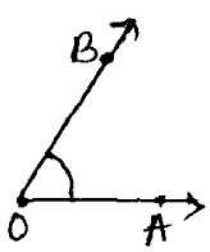
(i) From the figure, we can observe that

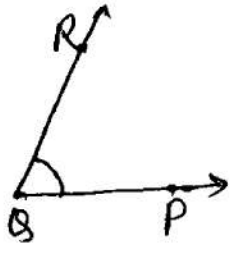
$\angle AOB > \angle DEF$

(ii) $\angle PQR > \angle LMN$

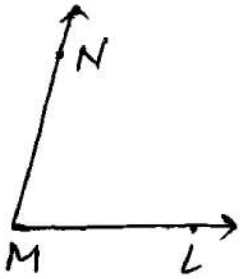
(iii) $\angle UVW > \angle XYZ$.

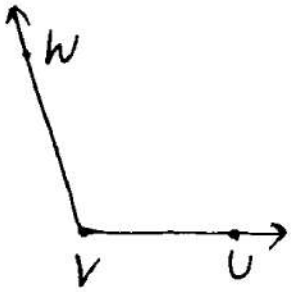
Q.10 By using tracing paper compare the angles in each of the pairs given in fig 11.21





(i)

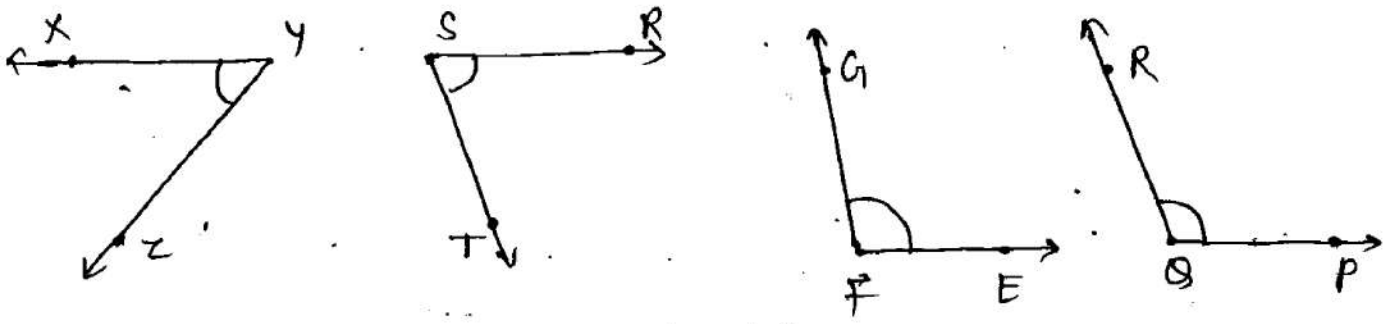




(ii)

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Solution : By tracing paper, we come to know that :

(i) $\angle PQR > \angle AOB$

(ii) $\angle UVW > \angle LMN$.

(iii) $\angle RST > \angle XYZ$

(iv) $\angle PQR > \angle EFG$.

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