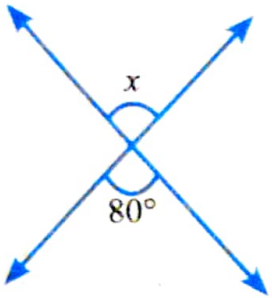
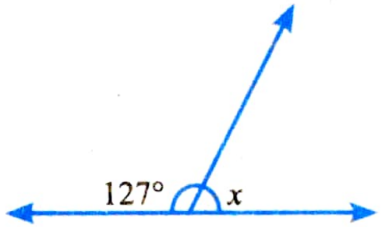
6. Find the values of x in the following figures:

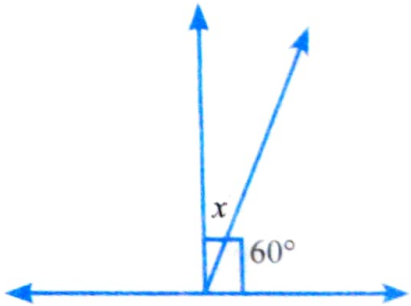
(a)



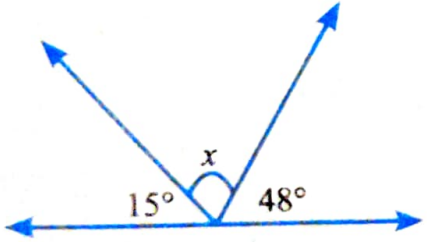
(b)



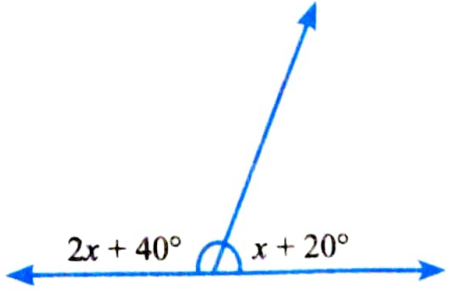
(c)



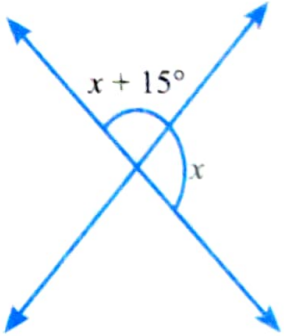
(d)



(e)

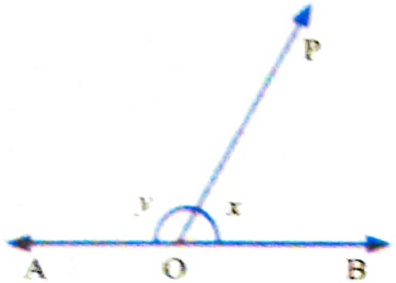


(f)

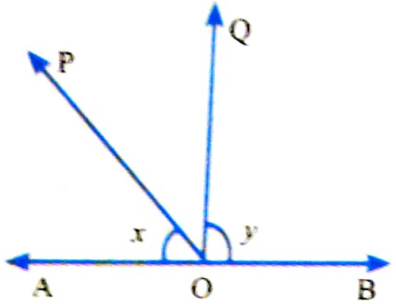


7. If one of the angles in a pair of supplementary angles is acute, then what kind of angle is the other?
8. If one angle of the linear pair is a right angle, then what kind of the angle is the other?
9. If one angle of a liner pair is an obtuse angle, then what kind of angle is the other?
10. Are the following angles adjacent to each other? Give reasons.

(a)



(b)



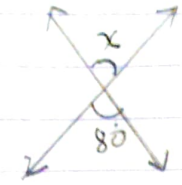
Class - VII

Subject - Mathematics

Date
7.8.2020 Chapter-9 Lines and Angles

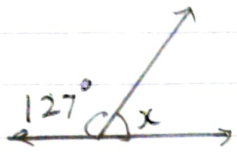
Ex 9.1

6. (a)



6 (a) $x = 80^\circ$ (vertically opposite angle)

(b)

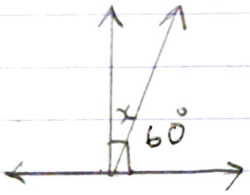


(b) $x + 127^\circ = 180^\circ$

$x = 180^\circ - 127^\circ$

$= 53^\circ$

(c)

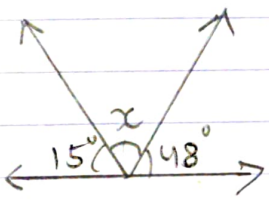


(c) $x + 60^\circ = 90^\circ$

$x = 90^\circ - 60^\circ$

$= 30^\circ$

(d)



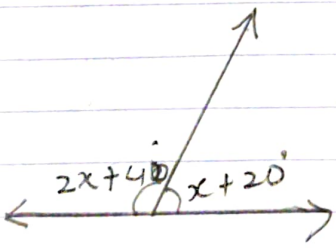
(d) $x + 15^\circ + 48^\circ = 180^\circ$

$x + 63^\circ = 180^\circ$

$x = 180^\circ - 63^\circ$

$= 117^\circ$

(e)



(e) $2x + 40^\circ + x + 20^\circ = 180^\circ$

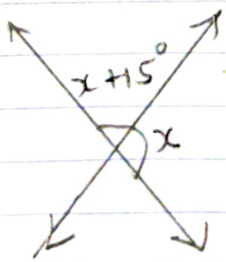
$3x + 60^\circ = 180^\circ$

$3x = 180^\circ - 60^\circ$

$= 120^\circ$

$x = \frac{120^\circ}{3} = 40^\circ$

(f)



(f) $x + 15^\circ + x = 180^\circ$

$2x + 15^\circ = 180^\circ$

$2x = 180^\circ - 15^\circ$

$2x = 165^\circ$

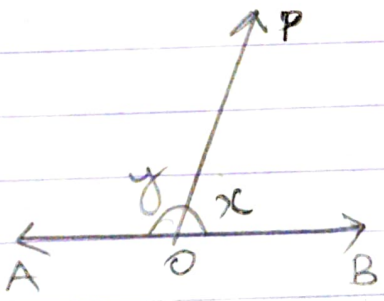
$x = \frac{165}{2} = 82.5^\circ$

7 Sum of supplementary angles = 180°
one angle = acute (less than 90°)
∴ other angle = obtuse (more than 90°).
Ans = obtuse angle

8. Sum of linear pair = 180°
One angle = 90°
Other angle = 180° − 90°
= 90°
Ans = Right angle

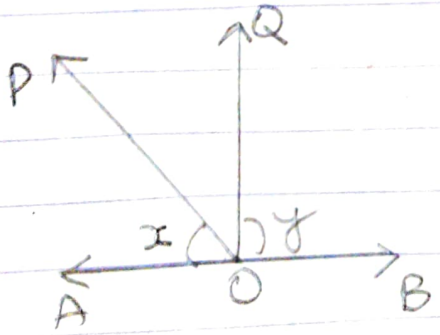
9. Sum of linear pair = 180°
One angle = obtuse (more than 90°)
other angle = acute (less than 90°)
Ans = Acute angle

10. (a)



(a) Yes, x and y are adjacent angles because they have a common vertex O and a common arm OP.

(b)



(b) No, x and y are not adjacent angles because they do not have a common arm.