

Exercise 11.2

Q.1 Give two examples each of right, acute and obtuse angles from your environment.

Solution: Examples of right angles are:

- (i) Two adjacent walls of room
- (ii) electric pole to the ground.

Examples of Acute angles (i) Two adjacent fingers of our hand.

- (ii) Angle between two adjacent sides of letter Z.

Examples of two obtuse angles: (i) Two adjacent blades of fan
(ii) Two sloping sides of roof.

Q.2 An angle is formed by two adjacent fingers. What kind of angle will it appear?

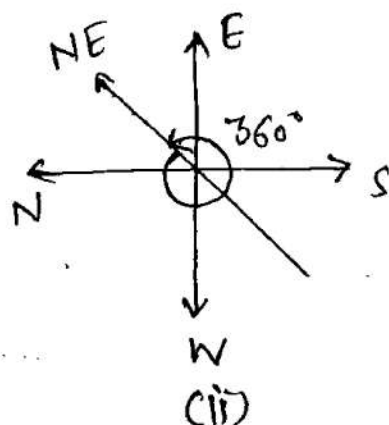
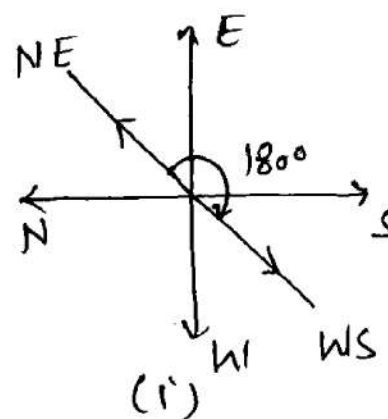
Solution: The angle between two adjacent fingers appears as acute angle.

Q.3 Shikha is rowing a boat due north-east. In which direction will she be rowing if she turns it through
(i) a straight angle (ii) a complete angle.

Solution

(i) South West

(ii) North east

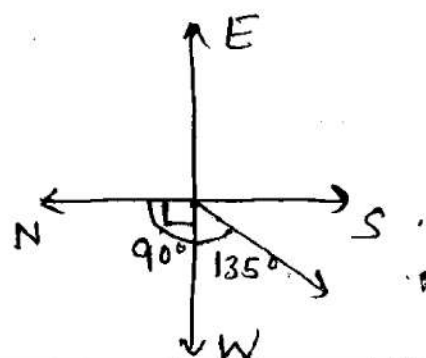


Q4 What is the measure of the angle in degrees between:

(i) North and West (ii) North and South

(iii) North and South-east

Solution! The Measure of the angle between.

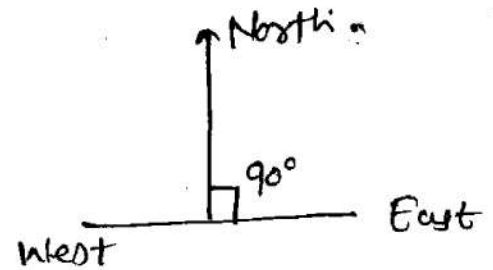
(i) North and West is 90° .(ii) North and South is 180° (iii) North and South west is 135° .

Q5 A ship sailing in river Jhelam moves towards east.

If it changes to north, through what angle does it turn?

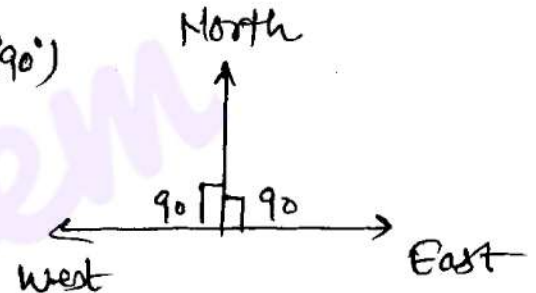
(9)

Solution:- If the ship moves from east to north direction, the angle it turns is 90° .



Q.6 You are standing in a class room facing north. In which direction are you facing after making a quarter turn?

Solution: If I take quarter turn (90°) right side, I will be facing towards east.



And If I turn left, I will be facing towards west.

Q.7 A Bicycle wheel makes four and a half turns. Find the number of right angles through which it turns

Solution: $\therefore$ Number of right angles in one turn = $\frac{360}{90}$
 $= 4$

$\therefore$ no. of right angles in 4 complete turns = $4 \times 4 = 16$
 no. of right angles in $\frac{1}{2}$ turn = $\frac{1}{2} \times 4 = 2$ turns.

$\therefore$ Total right angles = $16 + 2$
 $= 18$ right angles.

Q8 Look at your watch face. Through how many right angles does the minute hand move between 8:00 o'clock and 10:30 o'clock?

Solution: $\therefore$ Right angle moved by minute hand in 1 hour = 4

Then right angle moved in $2\frac{1}{2} = \frac{5}{2}$ hour = $\frac{5}{2} \times 4$
= 10 right angles

Q9 If a bicycle wheel has 48 spokes, then find the angle between a pair of adjacent spokes.

Solution: Angle between two adjacent spokes = $\frac{360^\circ}{48}$
= $\frac{15}{2} = 7\frac{1}{2}^\circ$

Q10 Classify the following angles as acute, obtuse, straight, right, zero and complete angle.

- | | | | |
|------------------------------|-----------------|-------------------|---------------------|
| (i) 118° | (ii) 29° | (iii) 145° | (iv) 165° |
| (v) 0° | (vi) 75° | (vii) 180° | (viii) 89.5° |
| (ix) 30° | (x) 90° | (xi) 179° | (xii) 360° |
| (xiii) $90\frac{1}{2}^\circ$ | | | |

Solution (i) 118° — obtuse angle
(ii) 29° — Acute angle.

(iii) 145° — obtuse angle

(iv) 165° — obtuse angle

(v) 0° — Zero angle

(vi) 75° — Acute angle

(vii) 180° — angle

(viii) 89.5° — Acute angle

(ix) 30° — Acute angle

(x) 90° — Right angle.

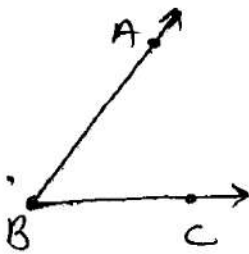
(xi) 179° — obtuse angle

(xii) 360° — Complete angle

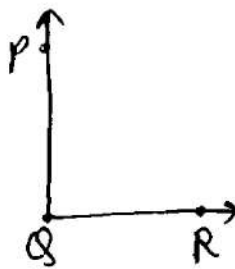
(xiii) $90\frac{1}{2}^\circ$ — obtuse angle

Q.11 Using only a ruler, draw an acute angle, a right angle and an obtuse angle in your notebook and name them.

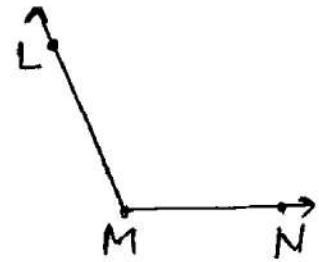
Solution:



(Acute angle)



(Right angle)



(Obtuse angle)

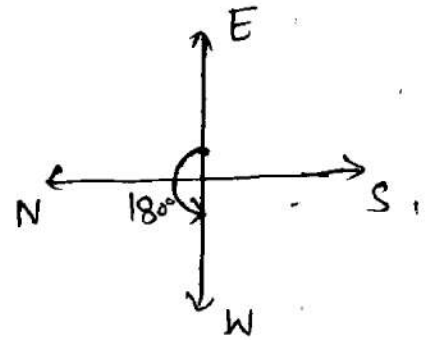
Q.12 State the kind of angle, in each case, formed between the following directions:

(i) East and west (ii) East and North

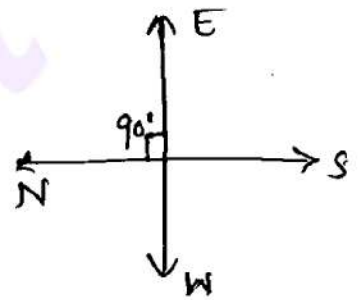
(iii) North and North east (iv) North and South east

Solution: (i) East and west

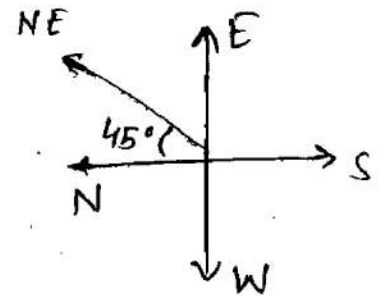
$\therefore$ angle between east and west is 180° . hence it is a straight angle.



(ii) Angle between east and North is 90° .
hence, it is a right angle.

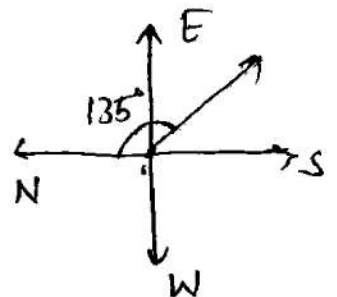


(iii) Angle between North and North east is 45° . hence it is an acute angle



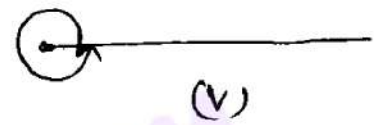
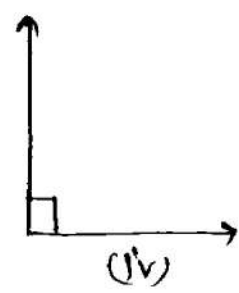
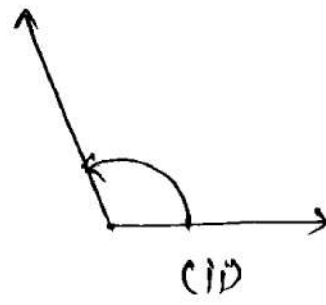
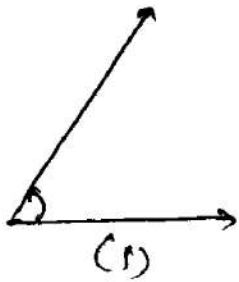
(iv) Angle between North and South east is 135° .

hence it is an obtuse angle



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13 State the kind of each of the following angles:



Solution (i) Acute angle

(ii) obtuse angle

(iii) straight angle

(iv) Right angle

(v) complete angle.