

Exercise 5.2

Question 1:

What fraction of a clockwise revolution does the hour hand of a clock turn through, when it goes from,

- (a) 3 to 9 (b) 4 to 7 (c) 7 to 10
(d) 12 to 9 (e) 1 to 10 (f) 6 to 3

Solution:

The fraction of revolution that hour hand turn of a clock turn in each case is as follows,

- (a) $\frac{1}{2}$ (b) $\frac{1}{4}$ (c) $\frac{1}{4}$
(d) $\frac{3}{4}$ (e) $\frac{3}{4}$ (f) $\frac{3}{4}$

Question 2:

Where will the hand of a clock stop if it:

- (a) Starts at 12 and make $\frac{1}{2}$ of a revolution, clockwise?
(b) Starts at 2 and makes $\frac{1}{2}$ of a revolution, clockwise?
(c) Starts at 5 and makes $\frac{1}{4}$ of a revolution, clockwise?
(d) Starts at 5 and makes $\frac{3}{4}$ of a revolution, clockwise?

Solution:

- (a) At 6 o'clock.
(b) At 8 o'clock.
(c) At 8 o'clock.
(d) At 2 o'clock.

Question 3:

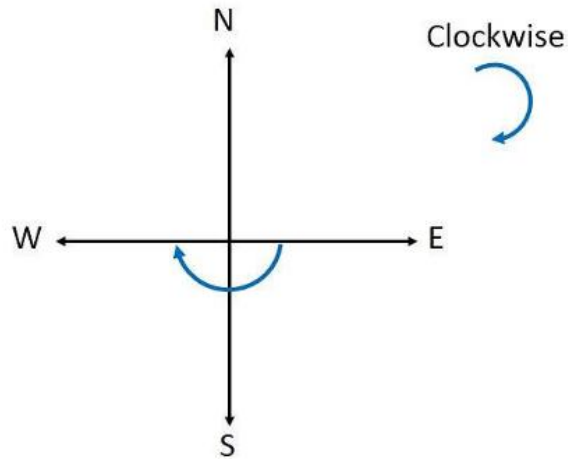
Which direction will you face if you start facing:

- (a) East and make $\frac{1}{2}$ of a revolution clockwise?
(b) East and make $1\frac{1}{2}$ of a revolution clockwise?
(c) West and makes $\frac{3}{4}$ of a revolution, clockwise?
(d) South and make one full revolution?
(Should we specify clockwise or anti-clockwise for this last question? Why not?)

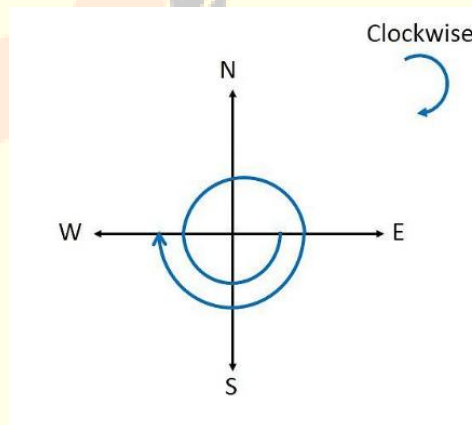
Solution:

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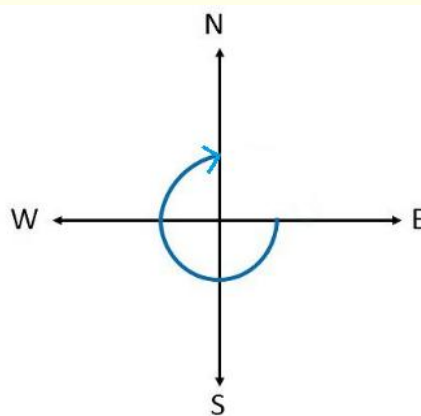
The directions are as follows,
(a) West



(b) West

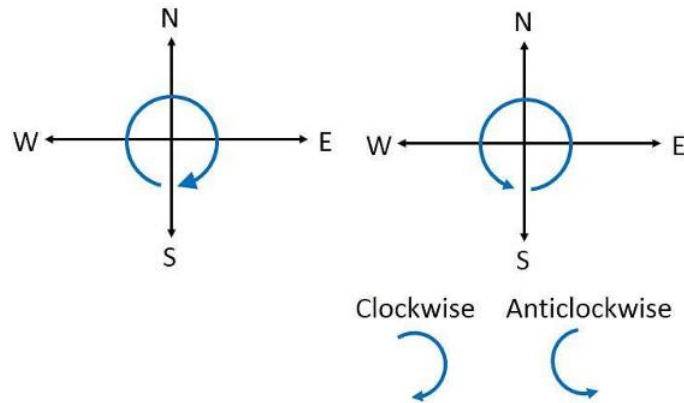


(c) North



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(d) South (clockwise or anti-clockwise doesn't matter in this case since full revolution will make bring us back to original in both cases).



Question 4:

What part of a revolution have you turned through if you stand facing:

- (a) East and turn clockwise to face north?
- (b) South and turn clockwise to face east?
- (c) West and turn clockwise to face east?

Solution:

The amount of revolution in each case is as followed,

- (a) $\frac{3}{4}$
- (b) $\frac{3}{4}$
- (c) $\frac{1}{2}$

Question 5:

Find the number of right angles turned through by the hour hand of a clock when it goes from:

- (a) 3 to 6
- (b) 2 to 8
- (c) 5 to 11
- (d) 10 to 1
- (e) 12 to 9
- (f) 12 to 6

Solution:

The number of right angles turned in each case is,

- | | |
|----------------------|----------------------|
| (a) One right angle | (b) Two right angles |
| (c) Two right angles | (d) One right angle |

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(e) Three right angles

(f) Two right angles

Question 6:

How many right angles do you make if you start facing:

- (a) South and turn clockwise to west?
- (b) North and turn anti-clockwise to east?
- (c) West and turn to west?
- (d) South and turn to north?

Solution:

The number of right angles turned in each case is,

- (a) One right angle
- (b) Three right angles
- (c) Four right angles
- (d) Two right angles

Question 7:

Where will the hour hand of a clock stop if it starts:

- (a) From 6 and turns through 1 right angle?
- (b) From 8 and turns through 2 right angles?
- (c) From 10 and turns through 3 right angles?
- (d) From 7 and turns through 2 straight angles?

Solution:

The hour hand will be at,

- (a) At 9
- (b) At 2
- (c) At 7
- (d) At 7