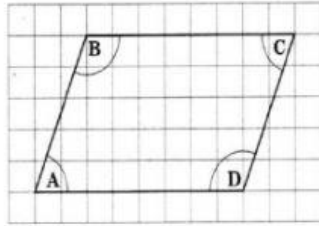
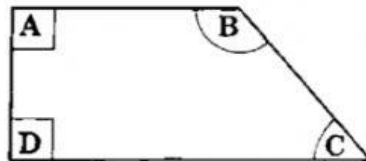


WORKSHEET

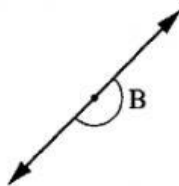
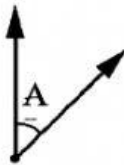
1. On the diagram, which two angles are greater than a right angle?



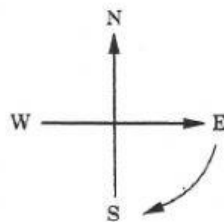
2. Which angle in the shape is greater than a right angle?



3. Which angle is less than a right angle?



4. Anna is facing East. She turns in a clockwise direction and is now facing West.



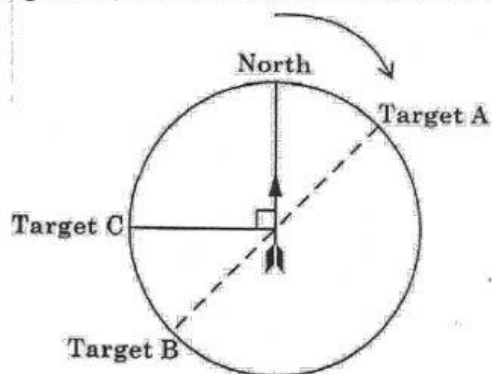
How many quarter turns did Anna move through?

5. The long hand of a clock moves from 12 to 9 in a clockwise direction.



How many half turns did the long hand move through?

6. Pete is standing facing North, in the middle of a circular field.



- (a) Pete turns clockwise to face target A. From the following list, circle the description of the angle through which he turns.

A right angle	More than a right angle	Less than a right angle
---------------	-------------------------	-------------------------

- (b) From Target A, Pete continues to turn clockwise to face Target B.
Through how many right angles does he turn in this single movement?
- (c) Pete continues to turn clockwise to face target C. What is the total number of **quarter-turns** that Pete makes in turning from North to Target C

7. Michael and Joey played a game where they both turned in a clockwise direction. They started the game with each boy facing North and they turned together. Michael made half turns while Joey made quarter turns. Complete the table to show the direction each boy faced after each turn

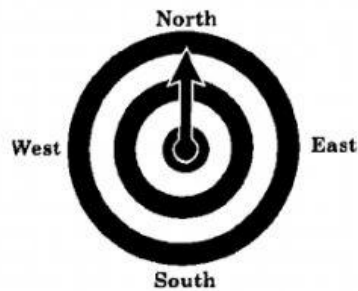
Turn Number	Michael	Joey
0 (Start)	North	North
1	South	_____
2	_____	South
3	South	_____
4	North	North

8. A target is used to play a game.

Rules of the game:

If the target is hit, the arrow moves $\frac{1}{4}$ turn clockwise.

If the target is missed, the arrow moves $\frac{1}{4}$ turn anticlockwise.

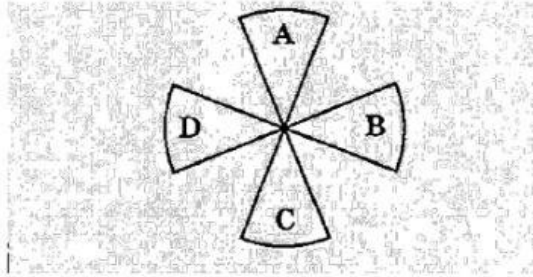


- (a) How many $\frac{1}{4}$ turns does the arrow move from West to South in a clockwise direction?
- (b) Sally starts her game with the arrow pointing North.
She has 3 hits followed by a miss.
In what direction is the arrow now pointing?
- (c) Richard starts his game with the arrow pointing North.
After 3 throws, the arrow points West.
Using **hit** or **miss**, complete the list below to show the order of two possible hits and misses that Richard could have made.

Hit, _____, _____

Miss, _____, _____

9. The diagram below shows the blades of a fan labelled A, B, C and D.



- (a) What fraction of a turn does Blade A make if it turns in a clockwise direction to the position of Blade D?
- (b) How many $\frac{1}{4}$ turns does Blade B make if it turns in a clockwise direction to the position of Blade D?
- (c) If blade B travels 200 cm in 1 whole turn, how many $\frac{1}{2}$ turns will it take to make 300 cm?