WONDERLEARNERZ PRIMARY ACADEMY â€" OFFICIAL ANSWER KEY & MARKING SCHEME

Angles and Turns: Worksheet 5 [ANSWER KEY]

Grade 5 | Mathematics | Ch 6: Angles and Turns | Total Marks: 19 | Time: 45 Minutes

Q1. How many degrees are in a full turn (one complete rotation)? [1 Mark]

Correct Answer: 360Â°

Explanation: One complete revolution around a point measures exactly 360Â°.

Q2. A dancer standing facing North makes a 90Â° clockwise turn. Which direction is the dancer now facing? [1 Mark]

Correct Answer: East

Explanation: Turning 90Â° clockwise from North points directly to East.

Q3. How many right angles make up a half turn (180Â°)? [1 Mark]

Correct Answer: 2 right angles

Explanation: Each right angle is 90Â°. 90Â° + 90Â° = 180Â° (2 right angles).

Q4. From 12:00 to 12:15, what fraction of a full turn does the minute hand of a clock make? [1 Mark]

Correct Answer: 1/4 turn

Explanation: 15 minutes out of 60 minutes = 15/60 = 1/4 turn (90Â°).

Q5. At the Central Botanical Gardens, a robotic sensor faces West. If the sensor makes a 3/4 turn (270Â°) clockwise, which direction does it now face? [1 Mark]

Correct Answer: South

Explanation: West to North (90Â°), North to East (180Â°), East to South (270Â°). It faces South.

Q6. A pirate ship sailing South turns 90Â° anticlockwise to evade a reef. Which compass direction is the ship now steering? [1 Mark]

Correct Answer: East

Explanation: Anticlockwise from South turns toward East.

Q7. How many degrees does the minute hand on a grandfather clock sweep through between 3:00 and 3:40? [1 Mark]

Correct Answer: 240Â°

Explanation: Each 5 minutes is 30Â° (360Â° / 12). 40 minutes = 8 intervals of 30Â° = 240Â°.

Q8. Complete the angle turn equation: 1 full turn = [?] quarter turns. [1 Mark]

Correct Answer: 4

Explanation: 360Â° / 90Â° = 4 quarter turns.

Q9. Fill in the missing degrees: 1/2 turn + 1/4 turn = [?]Â°. [1 Mark]

Correct Answer: 270

Explanation: 180Â° + 90Â° = 270Â°.

Q10. Sam says: 'Turning 180Â° clockwise puts you in a different direction than turning 180Â° anticlockwise.' Explain why Sam's statement is incorrect. [1 Mark]

Correct Answer: Both turns lead to the exact same opposite direction

Explanation: A 180Â° turn represents half a circle regardless of direction; both clockwise and anticlockwise face the exact opposite direction.

Q11. A scout claims: 'Facing North and turning 360Â° leaves me facing South.' Identify the error and state the correct direction. [1 Mark]

Correct Answer: North

Explanation: A 360Â° turn is a complete full rotation, returning to the starting direction (North).

Q12. Explain why angles are measured in degrees rather than linear units like centimeters. [2 Marks]

Correct Answer: Angles measure the amount of turn or opening between two intersecting lines, which is independent of how long the rays/arms are.

Explanation: Rotational turn is invariant to arm length, requiring angular degrees rather than linear length.

Q13. How are compass directions (N, E, S, W) related to multiples of 90Â° turns? [2 Marks]

Correct Answer: Starting from North, each consecutive cardinal direction represents a 90Â° clockwise rotation: North (0Â°), East (90Â°), South (180Â°), West (270Â°).

Explanation: Cardinal points divide a 360Â° circle into four equal 90Â° quadrants.

Q14. A camera rotates 45Â° clockwise, then 180Â° clockwise, and finally 90Â° anticlockwise. What is the net turn from its original heading? [2 Marks]

Correct Answer: 135Â° clockwise

Explanation: Net turn = +45Â° + 180Â° - 90Â° = 135Â° clockwise.

Q15. How many total degrees does the hour hand of an analog clock turn in 7 hours? [2 Marks]

Correct Answer: 210Â°

Explanation: In 12 hours the hour hand turns 360Â°, so 360Â° / 12 = 30Â° per hour. In 7 hours: 7 x 30Â° = 210Â°.