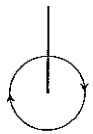
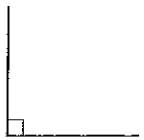
TARGET To measure angles with a protractor and to recognise acute, obtuse and reflex angles.

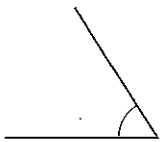
Angles measure the amount something turns or rotates. Angles are measured in degrees.

A whole turn is 360°.

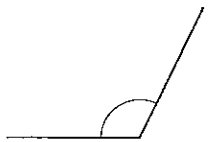


A right angle is 90°.





An acute angle
Less than 90°.



An obtuse angle
Greater than 90°.
Less than 180°.

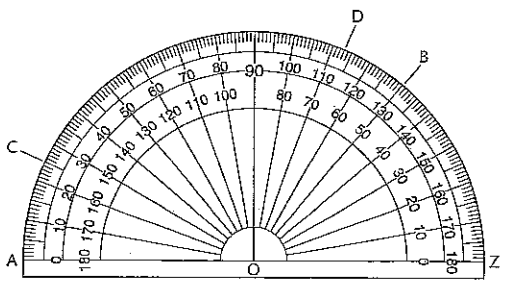
A reflex angle
Greater than 180°.

USING A PROTRACTOR

A protractor is used to measure or draw angles accurately. Most protractors have two scales, a clockwise outer scale and an anti-clockwise inner scale.
It is important to use the correct scale.

Examples

Outer Scale
$A\hat{O}B = 130°$
$A\hat{O}C = 25°$
$A\hat{O}D = 113°$



Inner Scale
$Z\hat{O}B = 50°$
$Z\hat{O}C = 155°$
$Z\hat{O}D = 67°$

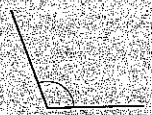
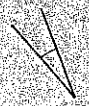
COMMON MISTAKES

1. Using the wrong scale. Angle ZOB above is 50° and not 130°.
   Before measuring, decide if the angle is greater than or less than 90°.

2. Reading the scale in the wrong direction. This mistake occurs more often when using the inner scale. Angle ZOD above would be incorrectly read as 73° and not as 67°.

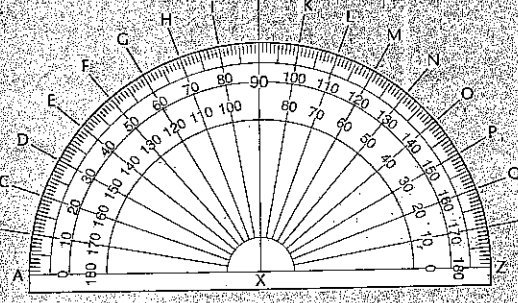
A

Decide which is the correct angle from the two answers.

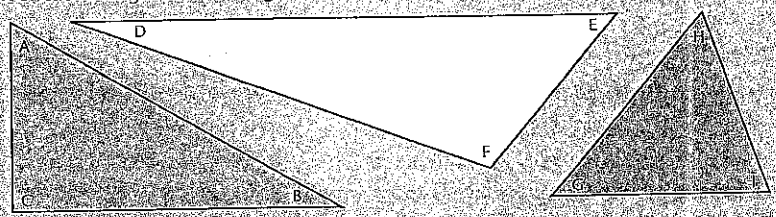
1. 
   (70°, 110°)
3. 
   (50°, 130°)
5. 
   (45°, 135°)
7. 
   (85°, 95°)
2. 
   (20°, 160°)
4. 
   (80°, 100°)
6. 
   (75°, 105°)
8. 
   (65°, 115°)

Give the measurement of each angle.

9. AXB
10. AXH
11. AXR
12. AXC
13. AXL
14. AXJ
15. AXT
16. AXN
17. ZXL
18. ZXD
19. ZXP
20. ZXI
21. ZXN
22. ZXE
23. ZXQ
24. ZXG



25. For each triangle write the angles in order of size, smallest first.



26. For each of the angles in the above triangles:
    a) say whether the angle is acute, obtuse or a right angle
    b) estimate the size of the angle to the nearest 10°
    c) measure the angle to the nearest 10°