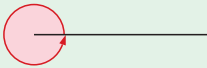


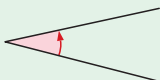

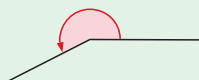


# Chapter 8: Lines and angles

8A

ANGLES

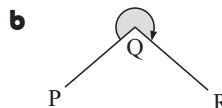
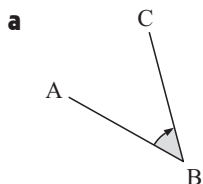
Revolution	Straight angle	Right angle
 <p>One complete turn = <math>360^\circ</math></p>	 <p><math>\frac{1}{2}</math> turn = <math>180^\circ</math></p>	 <p><math>\frac{1}{4}</math> turn = <math>90^\circ</math></p>
Acute angle	Obtuse angle	Reflex angle
 <p>Less than <math>\frac{1}{4}</math> turn. Between <math>0^\circ</math> and <math>90^\circ</math>.</p>	 <p>Between <math>\frac{1}{4}</math> turn and <math>\frac{1}{2}</math> turn. Between <math>90^\circ</math> and <math>180^\circ</math>.</p>	 <p>Between <math>\frac{1}{2}</math> turn and a complete turn. Between <math>180^\circ</math> and <math>360^\circ</math>.</p>

Angles which add to  $90^\circ$  are called **complementary angles**.  
Angles which add to  $180^\circ$  are called **supplementary angles**.

1 True or false?

- a An angle measuring  $42^\circ$  is an acute angle.
- b Half a revolution is a straight angle.
- c A straight angle is neither an obtuse angle nor a reflex angle.

2 Name and classify each angle:



3 Find the angle which is complementary to:

a  $31^\circ$

b  $84^\circ$

4 Find the angle which is supplementary to:

a  $13^\circ$

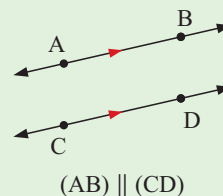
b  $113^\circ$

8B

PARALLEL AND PERPENDICULAR LINES

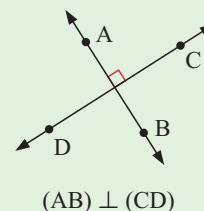
- Two lines in a plane are **parallel** if they never meet. We use arrowheads to show lines are parallel.

We use the symbol  $\parallel$  to mean “is parallel to”.



- Two lines in a plane are **perpendicular** if they intersect at right angles.

We use the symbol  $\perp$  to mean “is perpendicular to”.



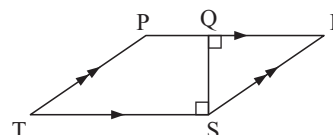
1 Use  $\parallel$  or  $\perp$  to complete each statement:

a (PR)  (TS)

b (PQ)  (QS)

c (PT)  (RS)

d (TS)  (SQ)



8C

ANGLE PROPERTIES

Title	Theorem
Angles at a point	Angles at a point add to $360^\circ$ .
Angles on a straight line	Angles on a line are supplementary.
Angles in a right angle	Angles in a right angle are complementary.
Vertically opposite angles	Vertically opposite angles are equal in size.

1 Find the value of the unknown:

