Reading the time (from clock faces)

An analog clock has an hour (short) hand and a minute (long) hand. Large divisions (with the numbers) on the clock face indicate hours, while smaller divisions indicate minutes. When the hour hand points at a number, that number represents the number of hours. For instance, an hour hand pointing at 5 indicates 5 hours. When the minute hand points at a number, that number multiplied by 5 represents the number of minutes. For example, a minute hand pointing at 4 indicates 20 minutes since \(4 \times 5 = 20\). When the hour hand is pointing between two numbers, the number of hours is given by the smaller of the two numbers. For example, an hour hand between 4 and 5 indicates 4 hours (and some minutes). The minute hand pointing at 12 indicates a full hour with no minutes to be counted.

If we divide the face of the clock in two halves, the right half can be called ‘time past’ and the left half can be called ‘time to’.

If the minute hand is in the right half, we count the number of minutes ‘past’ the present hour. If the minute hand is in the left half, we count the number of minutes ‘to’ the next hour. If a minute hand is at either 3 or 9, we say ‘quarter past’ or ‘quarter to’ and if it is at 6, we say ‘half past’. Finally, when the minute hand is pointing at 12, we say ‘o’clock’.

WORKED Example 1

Read the time from these clock faces.

a

THINK

a The hour hand is between 5 and 6, so it is 5 hours. The minute hand is pointing at 3, so it is \(3 \times 5 = 15\) minutes. State the time shown.

WRITE

a 5.15

b

THINK

b The hour hand is between 3 and 4, so it is 3 hours. The minute hand is pointing at 8, so it is \(8 \times 5 = 40\) minutes. State the time shown.

WRITE

b 3.40

c

THINK

c The hour hand is pointing at 7, while the minute hand is pointing at 12, so it is 7 hours and no minutes. State the time shown.

WRITE

c 7.00

If a minute hand is at either 3 or 9, we say ‘quarter past’ or ‘quarter to’ and if it is at 6, we say ‘half past’. Finally, when the minute hand is pointing at 12, we say ‘o’clock’.
State the time, shown on each of the clock faces in worked example 1, using expressions such as ‘past’, ‘to’, ‘quarter’ etc.

**THINK**

- The minute hand is in the right half, so it is ‘past’ the present hour (which is 5). Furthermore, it points at 3, so it is ‘quarter past’.

- The minute hand is in the left half, so we need to count the number of minutes ‘to’ the next hour (which is 4, since the hour hand is between 3 and 4). There are four 5-minute intervals till the next hour (that is, till the minute hand reaches 12), so it is $4 \times 5 = 20$ minutes ‘to’.

- The minute hand is pointing at 12, so it is ‘o’clock’.

**WRITE**

- Quarter past five

- Twenty minutes to four

- Seven o’clock

**Try these**

1. Read the time from these clock faces.

   - a
   - b
   - c
   - d
   - e
   - f
   - g
   - h
   - i
   - j

2. State the time shown on each of the clock faces in question 1, using expressions such as ‘past’, ‘to’, ‘quarter’ etc.