Time Conversions and Calculations

This worksheet covers converting between units of time, the 12-hour and 24-hour clock, and calculating duration.

Unit Conversions

1. How many minutes are there in 3.5 hours?

2. Convert 420 seconds into minutes.

3. Convert 18 months into years.

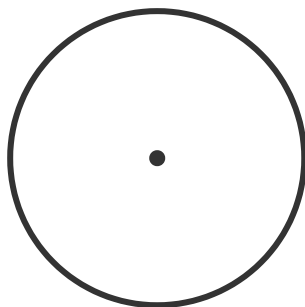4. How many hours are there in $14,400$ seconds?

12-Hour and 24-Hour Clock

5. Convert the following times to the 24-hour clock:

a. 7 : 30 am

b. 4 : 15 pm

c. 11 : 50 pm

6. Convert the following times to the 12-hour clock (use am or pm):

a. 0645

b. 1400

c. 2359

7. Draw the time 16 : 20 on the clock face below.

Duration and Application

8. How long is the duration between 0915 and 1440 on the same day?

9. A flight departs Auckland at 21 : 35 on Monday and arrives in Sydney at 00 : 15 on Tuesday. What is the total duration of the flight?

10. An athlete runs a marathon in 3 hours, 45 minutes, and 15 seconds. Convert this total time entirely into seconds.

11. A movie lasts 155 minutes. If it starts at 19 : 40, what time will it finish?

12. Use the timetable below for the express bus route to answer the following questions:

Stop	Bus 1	Bus 2	Bus 3
City Centre	07 : 45	08 : 50	10 : 05
North Shore Bridge	08 : 02	09 : 07	10 : 22
High School	08 : 18	09 : 23	10 : 38
Park & Ride	08 : 35	09 : 40	10 : 55

a. How long does the Bus 2 journey take from the City Centre to the Park & Ride?

b. If a student must be at the High School by 09 : 00, which is the latest bus they can take from the City Centre?

13. A flight departs Auckland at 21 : 35 on Monday and arrives in Sydney at 00 : 15 on Tuesday. What is the total duration of the flight?

12. A flight departs Auckland at $21 : 35$ on Monday and arrives in Sydney at $00 : 15$ on Tuesday. What is the total duration of the flight?

14. Use the following commuter train timetable for the afternoon peak to answer the questions:

Station	Train 1	Train 2	Train 3	Train 4	Train 5
Auckland CBD	$16:30$	$16:55$	$17:15$	$17:40$	$18:00$
Newmarket	$16:39$	$17:04$	$17:24$	$17:49$	$18:09$
Penrose	$16:55$	$17:20$	$17:40$	$18:05$	$18:25$
Ōtāhuhu	$17:10$	$17:35$	$17:55$	$18:20$	$18:40$

a. What is the average time interval (in minutes) between the trains departing from the Auckland CBD?

b. How long is the journey from Newmarket to Ōtāhuhu on Train 3?

c. A passenger arrives at Penrose station at $17:05$. How long must they wait for the next train to Ōtāhuhu?

d. What time does Train 5 arrive in Penrose? Convert this time to the 12-hour clock (with am or pm).