WORKSHEET

Rate skills

1 Who earns the most per hour?

- Baker: $144.22 for 8 h
- Hairdresser: $108.14 for 6 h
- Painter: $184.20 for 10 h
- Plumber: $347.37 for 18 h
- Roof tiler: $213.11 for 11 h

2 A bus travels 470 km in 5 h.

a What is its average speed?

b How far would it travel in 3 hours at the same average speed?

3 Jason earned $194 for 8 hours work.

a Calculate his wage rate.

b How much would Jason earn in $15\frac{1}{2}$ hours?

4 A tap drips 28 L of water each day.

a How many litres are wasted over 5 days?

b How many weeks will it take to waste 1176 L?

5 If Vicky's heart beats 72 times/min, how long will it take to beat 1836 times?

6 Katrina made 30 runs in 8 overs of cricket. Calculate her run rate in runs/over.

7 Ilhea sheared 50 sheep in 4 h.

a What was her shearing rate per hour?

b How long would it take her to shear 678 sheep? Answer to the nearest minute.

8 Jane took 2.5 h to walk 8 km. What was her average speed in km/h?

9 A 13 minute mobile phone call costs $11.44. Find the rate charged:

a in cents per 30 s

b in cents per second, correct to two decimal places.

10 Convert $10.80/hour to cents/min.

11 A 2.4 kg parcel costs $10.08 to send by post.

a What is the postage rate in $/kg?

b If charged at the same rate, what would be the cost of sending a 3.1 kg parcel?

12 Melissa earned $681.20 for working from 9.00 a.m. to 5.00 p.m. Monday to Friday.

a What is her hourly rate of pay?

b How much would she earn for working from 10.00 a.m. until 2.30 p.m. for 5 days?

13 If Australia's population density is 2.91 persons/km^2 and its area is 7 682 300 km^2, what is Australia's population, correct to the nearest thousand?

14 James is charged $237.60 for 1020 kWh (kilowatt hours) of electricity.

a What is this cost in cents/kWh, correct to two decimal places?

b How much would it cost to use 3478 kWh of electricity? Answer to the nearest cent.

15 When using water in the home, 52.5 kL costs $37.80.

a Calculate this water rate in cents/kL.

b How much would it cost if 37.4 kL of water were used?

16 At Hicksville High, there are 67 teachers for 754 students.

a How many students are there per teacher? Answer correct to one decimal place.

b The school is split so that there is a junior and senior campus. Hicksville Senior High has 212 students. If the same rate of students per teacher is applied, how many teachers would there be at Hicksville Senior High? Answer correct to one decimal place.

17 The fuel consumption of a Ford Festiva is 8.2 L/100 km. How many kilometres can it travel on 41 L of petrol?

18 Electricity costs 10.25 cents/kWh. Robyn received an electricity bill of $172.20 for 92 days.

a How many kWh of electricity did she use?

b What was her daily kWh usage, correct to one decimal place?

19 Nails cost $4.60/kg. How much would one 8 g nail cost?

20 Convert 1750 mL/s to L/min.

21 Mobile phone calls cost 28c per 30 s. For how much time can you talk for $30? Answer correct to the nearest minute.

22 A car travels 250 km on 34 L of petrol. Calculate its fuel consumption rate:

a in L/km

b in L/100 km.

23 A petrol tanker discharges 680 L of fuel per minute. How long will it take to empty its tank of 8500 L?

24 A plumber charged \$148.75 for working $3\frac{1}{2}$ hours.

a What was his rate per half-hour?

b How much would he charge for working 7 h and 45 min?

25 A motel bill came to a total of \$1246 for a fortnight.

a What was the daily rate?

b How many days could somebody stay at the motel if they had \$800?

26 Convert 72 km/h to m/s.

27 Over a 9-hour day, a painter painted an area of 248m^2.

a What was his hourly rate? Answer to one decimal place.

b At this rate, how long would the painter take to paint $957\ \text{m}^2$? Answer to the nearest minute.

28 A satellite travels 29 160 km in one hour. What is its speed in km/s?

29 The cost of water is 84 cents/kL. A household uses an average of 850 L per day. Calculate:

a the water usage over 6 weeks in kL.

b the cost of water for 6 weeks.

Answers

1 The roof tiler
2 **a** 94 km/h
b 282 km
3 **a** $24.25/h
b $375.88
4 **a** 140 L
b 6 weeks
5 25.5 min
6 3.75 runs/over
7 **a** 12.5 sheep/h
b 54 h 14 min
8 3.2 km/h
9 **a** 44 c/30 s
b 1.47 c/s
10 18 c/min
11 **a** $4.20/kg
b $13.02
12 **a** $17.03/h
b $383.18
13 22 355 000
14 **a** 23.29 c/kWh
b $810.17
15 **a** 72 c/kL
b $26.93
16 **a** 11.3 students/teacher
b 18.8 teachers
17 500 km
18 **a** 1680 kWh
b 18.3 kWh
19 3.68c
20 105 L/min
21 54 min
22 **a** 0.136 L/km
b 13.6 L/100km
23 12.5 min
24 **a** $\$21.25/\frac{1}{2}\text{h}$
b $329.38
25 **a** $89/day
b 8 days
26 20 m/s
27 **a** 27.6 m^2/h
b 35 h
28 8.1 km/s
29 **a** 35.7 kL
b $29.99