

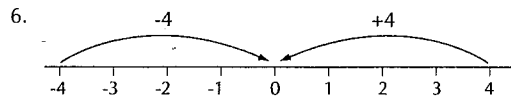
- No. of comic books : $12.50 \div 2.54 \approx 4.92$
I can buy 4 comic books.
- Weekly expenditure : $(320 \div 100) \times 7 \times 0.63 \approx 14.11$
He spent about \$14.11 on gas weekly.
- Money left : $100 - (100 - 15.49 \times 5) = 22.55$
He had \$22.55 left for lunch.
- a. He spent : $(16.99 \times 3 + 24.25 \times 2) \times 1.15$
 $= (50.97 + 48.5) \times 1.15 = 114.39$
He spent \$114.39.
b. Change : $150 - 114.39 = 35.61$
He got \$35.61 change.
- Each would get : $4.75 \div 8 \approx 0.59$
Each would get about \$0.59.
- No. of nickels : $3.48 \div 0.05 = 69$
The maximum number of nickels she has is 69.
- Distance apart : $3.73 \times 150 = 559.5$
The towns are 559.5 km apart on land.
- Length of a Mars year : $1.88 \times 365.3 \approx 686.76$
The length of a Mars year is 686.76 days.
- a. Time : $70.83 \div 48 \approx 1.48$
It took about 1.48 hours.
b. No. of orbits : $(10 \div 70.83) \times 48 \approx 6.78$
She made 6.78 orbits in 10 hours.
- $4.5 \div (1 + \frac{1}{4}) = 3.6$
The number is 3.6.
- 0.357; 0.308; 0.333; 0.313
- New average : $5 \div (14 + 3) = 0.294$
His new batting average was 0.294.
- No. of hits : $0.375 \times (13 + 3) - 4 = 6 - 4 = 2$
He had 2 more hits.
- No. of times at bat : $(4 + 1) \div 0.333 - 12 \approx 3$
He had 3 times at bat that day.
- Batting average : $(0.357 + 0.308 + 0.333 + 0.313) \div 4 \approx 0.328$
The batting average of the four batters was about 0.328.
- Time : $(35.2 + 27.4 + 48.7) \div 65.5 = 1.70$
He takes 1.70 h (1 h 42 min) to reach Greenpark.
- Average speed : $(12.5 + 28.3 + 27.4 + 48.7) \div 2.2 = 53.136$
His average speed is 53.136 km/h.
- Distance : $2.90 \times 70 \div 2 = 101.5$
From Huntsville to Greenpark via Brownsville :
 $52.8 + 48.7 = 101.5$
He took the route via Brownsville.

Challenge

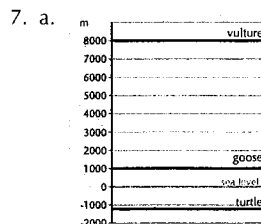
Each group has 1 loonie and 2 dimes; its value is \$1.20.
No. of groups of coins : $(15.35 - 19 \times 0.05) \div 1.20 = 12$
There are 12 loonies and 24 dimes.

Unit 9

- always 2. sometimes 3. never
- never 5. always



The sum is zero.



- Sum : $(+8000) + (+1000) + (-1200) = +7800$
The sum is +7800.
- Difference : $+8000 - (+1000) = +7000$
The difference is +7000 m.
- Difference : $+8000 - (-1200) = +9200$
The difference is +9200 m.
- a. Mt Logan is +5900 m; the trench is -11 000 m.
b. Distance apart : $-11000 + 5900 = -5100$
No. Mt Logan would still be 5100 m below sea level.
- a. Changes : $+23\frac{1}{8} - 2\frac{1}{4} + 2\frac{3}{4} - 3\frac{1}{2} + 2 - 3\frac{3}{4}$
b. Money change : $(-2\frac{1}{4} + 2\frac{3}{4} - 3\frac{1}{2} + 2 - 3\frac{3}{4}) \times 1000$
 $= -4\frac{3}{4} \times 1000 = -4750$
He lost \$4750.00.
- a. Mercury is the coldest.
b. Difference : $-90 - (-123) = 33$
The difference is 33°C.
c. $-90^\circ\text{C} > -123^\circ\text{C} > -184^\circ\text{C}$ or
 $-184^\circ\text{C} < -123^\circ\text{C} < -90^\circ\text{C}$
- a. Temperature : $-35 - (-19) = -16$
The temperature in Calgary was -16°C.
b. Difference : $-19 - (-16) = -3$
The difference was 3°C.
- a. Jan 1 : -5 Jan 7 : -4
The change is $-4 - (-5)$.
b. Temperature : $-4 + (-7) = -11$
The temperature on Jan 8 was -11°C.
- Football game : $+6 + (-3) + (-2) + (-4) = -3$
He had lost 3 m overall.
- a. Mr Smith's score :
 $0 + (+2) + (-1) + (-2) + (0) + (+1) + (+1) + (-1) + (+2)$
He scored 2 over par.
b. His score : $+36 + (+2) = +38$
His score was +38.

Challenge

- The sum of the integers is negative, so the integers are negative.
 $(-3, -6)$; $-3 - (-6) = 3$ ✗
 $(-2, -7)$; $-2 - (-7) = 5$ ✓
The integers are -2 and -7.
- The average of the numbers is 9; the sum of the numbers is 18.
 $(12, 6)$; $(12 + 6) \div 2 = 9$, $12 - 6 = 6$ ✗
 $(13, 5)$; $(13 + 5) \div 2 = 9$, $13 - 5 = 8$ ✓
The integers are 5 and 13.

Unit 10

1. a.

Distance (km)	5	10	15
Cost (\$)	6	10	14

+4 +4

The cost of a 15 km ride is \$14.00.

b.

Distance (km)	15	20	25	30	35	40
Cost (\$)	14	18	22	26	30	34

The cost of a 40 km ride is \$34.00.

c. I can travel 20 km for \$18.00.

2.

Week	0	1	2	3	4	5
Weight (g)	100	200	400	800	1600	3200

x2 x2 x2 x2 x2

It takes 5 weeks to reach at least 3 kg.