Solutions

2. Use a calculator to express each fraction as a decimal. Round your answers to four decimal places, if necessary.

a) $\frac{17}{40}$ $= 17 \div 40 = 0.425$

b) $\frac{4}{13}$ $= 4 \div 13 = 0.307692307\ldots$
$= 0.3077$ to 4 d.p.

c) $\frac{5}{6}$ $= 5 \div 6 = 0.833333\ldots$
$= 0.8333$ to 4 d.p.

d) $\frac{4}{9}$ $= 4 \div 9 = 0.444444\ldots$
$= 0.4444$ to 4 d.p.

3. Express each decimal as a fraction in lowest terms.

a) $0.75 = \frac{75}{100} = \frac{3}{4}$ ($\div$ by 25)

b) $0.16 = \frac{16}{100} = \frac{4}{25}$ ($\div$ by 4)

c) $0.65 = \frac{65}{100} = \frac{13}{20}$ ($\div$ by 5)

d) $0.125 = \frac{125}{1000} = \frac{1}{8}$ ($\div$ by 125)

e) $0.3333\ldots = \frac{1}{3}$ (we should know this one)

f) $0.001 = \frac{1}{1000}$ (already in lowest terms)

4. Express each percent as a fraction in lowest terms.

a) $30\% = \frac{30}{100} = \frac{3}{10}$ ($\div$ by 10)

b) $25\% = \frac{25}{100} = \frac{1}{4}$ ($\div$ by 25)

c) $80\% = \frac{80}{100} = \frac{4}{5}$ ($\div$ by 20)

d) $45\% = \frac{45}{100} = \frac{9}{20}$ ($\div$ by 5)

e) $66.666\ldots\% = \frac{2}{3}$ (you likely have seen this one)

f) $100\% = \frac{100}{100} = 1$ ($\div$ by 100)

6. Use a calculator to evaluate each expression in question 5. If your calculator has a fraction button, answer as a fraction.

a) $1 - \frac{1}{4} = \frac{3}{4}$

b) $\frac{1}{2} - \frac{1}{6} = \frac{1}{3}$

c) $\frac{1}{5}$ of 80 $= 16$

d) $\frac{3}{13} \times \frac{1}{6} = \frac{1}{26}$

7. The table shows the results of rolling a six-sided die several times.

Result	Frequency
1	3
2	4
3	3
4	5
5	2
6	1

a) What was the total number of rolls?

b) What percent of the total number of rolls resulted in a 4?

c) What fraction of the total number of rolls resulted in an even number?

d) For the number of rolls that resulted in an even number, what percent resulted in a 2?

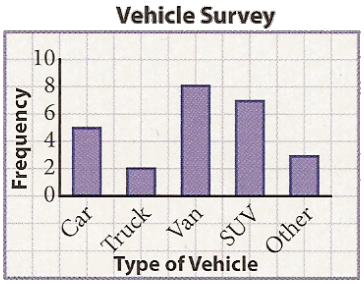
a) $= 3+4+3+5+2+1$
$= 18$ rolls

b) 5 fours from 18 rolls
$= \frac{5}{18}$
$= 0.2777...$
$=$ ANS $\times 100$
$= 27.777...\%$ (28%)

c) 4 twos, 5 fours, 1 six
$= 4+5+1$
$= 10$ even numbers
Fraction is $\frac{10}{18} = \frac{5}{9}$

d) 4 twos from 10 even rolls
$= \frac{4}{10}$
$= 0.4$
$=$ ANS $\times 100$
$= 40\%$

8. Consider the following graph.



a) What type of graph is this?

b) How many vehicles were seen?

c) What was the most popular vehicle?

d) What fraction of the vehicles were cars?

e) What percent of the vehicles were trucks?

a) Bar chart

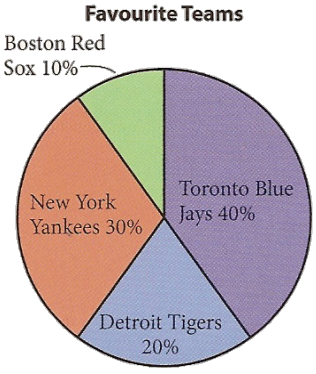
b) $= 5 + 2 + 8 + 7 + 3$
$= 25$ vehicles

c) Van is most popular (8)

d) 5 cars from 25 vehicles
$= \frac{5}{25}$
$= \frac{1}{5}$

e) 2 trucks from 25 vehicles
$= \frac{2}{25}$
$= 0.08$
$= ANS \times 100$
$= 8\%$

9. Two hundred people were surveyed. The results are shown in the graph.



a) Of the people surveyed, how many prefer the Boston Red Sox?

b) What fraction of the people surveyed prefer the Toronto Blue Jays?

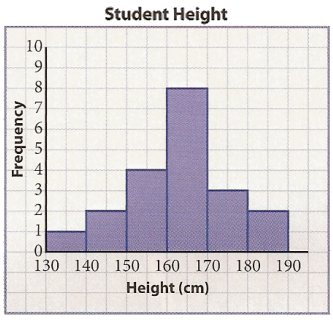
c) What percent of the people surveyed prefer the Blue Jays or the New York Yankees?

a) 10% like the Red Sox.
10% of 200
$= \frac{10}{100} \times 200$
$= 0.1 \times 200$
$= 20$ people

b) 40% like the Blue Jays
$= \frac{\cancel{40}^{2}}{\cancel{100}_{5}}$ (÷ by 20)
$= \frac{2}{5}$

c) 40% like the Blue Jays
30% like the Yankees
$\Rightarrow 40 + 30 = 70$
70% of the people like the Blue Jays OR the Yankees

10. The histogram shows the heights of the students in Mr. Lee's math class.



a) How many students are in the class?

b) How many students are between 160 cm and 170 cm tall?

c) What percent of students are shorter than 160 cm?

d) What fraction of students are taller than 150 cm?

a) $= 1+2+4+8+3+2$
$= 20$ students

b) $160\text{cm} - 170\text{cm} = 8$ students

c) $= 1+2+4$
$= 7$ students are shorter than 160cm
$= \frac{7}{20} \times 100\%$
$= 35\%$ of students are shorter than 160cm

d) $= 4+8+3+2$
$= 17$ students are taller than 150cm
$= \frac{17}{20}$