Trinity High School
Mathematics Department
S1 Block 2 Revision

| Topic | I can | Got it! | Almost | Not yet |
| :---: | :---: | :---: | :---: | :---: |
| Fractions | Identify and show fractions equivalent to a given fraction |  |  |  |
|  | Write any fraction in its simplest form |  |  |  |
|  | Write improper fractions and mixed numbers |  |  |  |
|  | Write mixed numbers as improper fractions |  |  |  |
|  | Add and subtract fractions, with different denominators - including mixed numbers |  |  |  |
|  | Calculate a fraction of a quantity. |  |  |  |
| Decimals | Round decimal fractions to 1,2 or 3 decimal places. |  |  |  |
|  | Use rounding to estimate the answers to calculations. |  |  |  |
|  | Solve addition and subtraction problems working with decimal fractions up to three decimal places. |  |  |  |
|  | Solve multiplication and division problems working with decimal fractions up to three decimal places. |  |  |  |
| Length and Perimeter | Use the appropriate formula to find the perimeter of a shape. |  |  |  |
|  | Choose appropriate units for length when solving practical problems. |  |  |  |
|  | Convert between standard units to three decimal places and apply this when solving calculations. |  |  |  |
|  | Choose the appropriate formula to calculate area when required. |  |  |  |
| Statistics | Source information or collect data making use of digital technology. |  |  |  |
|  | Describe trends in data using appropriate language. |  |  |  |
|  | Organise and display data appropriately in a variety of forms e.g bar graph, line graph, pie chart |  |  |  |
|  | Interpret raw and graphical data. |  |  |  |
|  | Calculate the mean, median, mode and range for a set of data. |  |  |  |
|  | Select the most appropriate statistical diagram to display a given data set. |  |  |  |

## Fractions

1. Write down the fraction of each shape that is shaded then match the equivalent fractions:

2. Write down 3 more fractions equivalent to:
a) $\frac{2}{3}$
b) $\frac{1}{4}$
C) $\frac{3}{5}$
d) $\frac{4}{9}$
3. Write these fractions in simplest form:
a) $\frac{25}{35}$
b) $\frac{12}{36}$
C) $\frac{48}{56}$
d) $\frac{72}{96}$
4. Write these improper fractions as mixed numbers in their simplest form:
a) $\frac{25}{4}$
b) $\frac{28}{10}$
C) $\frac{54}{7}$
d) $\frac{65}{20}$
5. Write these improper fractions as mixed numbers in their simplest form:
a) $1 \frac{3}{5}$
b) $4 \frac{8}{9}$
C) $3 \frac{7}{10}$
d) $2 \frac{3}{4}$
6. Work out the following:
a) $\frac{2}{5}+\frac{1}{5}$
b) $\frac{4}{5}+\frac{2}{3}$
C) $\quad 1 \frac{1}{4}+2 \frac{3}{8}$
d) $2 \frac{4}{5}+3 \frac{1}{2}$
e) $\frac{6}{7}-\frac{4}{7}$
f) $\frac{3}{5}-\frac{1}{10}$
g) $5 \frac{3}{4}-2 \frac{1}{3}$
h) $4 \frac{1}{6}-1 \frac{1}{2}$
7. Work out the following:
a) $\frac{1}{5}$ of $£ 450$
b) $\frac{2}{9}$ of 171 kg
c) $\frac{5}{7}$ of $\$ 504$
d) $\frac{7}{8}$ of $£ 16800$
8. Jane has completed this question in a class test. Can you spot any mistakes?

Find $\frac{5}{6}$ of $£ 93$.

$$
\begin{array}{ll}
15 r 3 & 15 \cdot 3 \\
155 \\
69^{3} 3 & \frac{76.5}{21}
\end{array} \text { so } £ 76.50
$$

## Decimals

1. Round the following numbers to one decimal place:
(a) 4.3489
(b) 126.789
(c) 87.999
(d) 199.9999
2. Round the following numbers to three decimal places:
(a) 138.24356
(b) 98.37892
(c) 47.87999
(d) 5672.33939
3. Estimate an answer to the following by rounding each number to 1 figure accuracy:
(a) $4891+3456$
(b) $9239-467$
(c) $12134 \div 228$
(d) $835 \times 579$
4. Calculate:
(a) $567.31+28.763$
(b) $756.587-498.237$
(c) $145.673 \times 4$
(d) $264.82 \div 2$
5. Five swimmers are entered into a competition. Four of the swimmers have had their turns. Their scores are $9.8 \mathrm{~s}, 9.75 \mathrm{~s}, 9.79 \mathrm{~s}$, and 9.81 s . What score must the last swimmer get in order to win the competition?
6. Ellen wanted to buy the following items: A DVD player for $\$ 49.95$, a DVD holder for $\$ 19.95$ and a personal stereo for $\$ 21.95$. Does Ellen have enough money to buy all three items if she has $\$ 90$ with her?
7. What is the combined thickness of these five pieces of material: $0.008,0.125,0.15,0.185$, and 0.005 cm ?
8. If a 5 m piece of electrical tape has 0.037 m cut from it, then what is the new length of the tape?
9. The cost for one person to register for Slimming World is $£ 19.95$, how much will it cost a family of 3 people to register?
10. The price of a food bill for 5 people is $£ 127.60$. How much should each person pay?

## Length and Perimeter

1. Convert the following into centimetres:
(a) 9 m
(b) 70 mm
(c) 620 mm
(d) 22 m
(e) 5.3 m
(f) 8.5 m
2. Convert the following into kilometres:
(a) 6000 m
(b) 70 m
(c) 3400000 m
(d) 90530 m
(e) 125 m
(f) 5500 m
3. Jack is 1.36 metres tall. His friend lan is 5 cm taller than Jack. What height is lan? Give your answer in metres.
4. Mary runs 600 m every day. Work out how far Mary runs in one week. Give your answer in kilometres.
5. There are different lengths of rope lying around, $0.62 \mathrm{~m}, 40 \mathrm{~cm}, 700 \mathrm{~mm}$ and 4 m . What is the total length of rope altogether?
6. Find the perimeter of the following shapes:
(a)

(c)

(b)

(d)

7. Find the perimeter of the following shape:

8. A rectangle has a length that is twice its width. If the length is 18 m , what is its perimeter?
9. Find an expression for the perimeter of the following shapes:
(a)
2a

(c)

(b)

10. Calculate the perimeter and area of the following shapes:
(a)

(c)

(b)

(d)

11. Find the area and perimeter of the shape shown:


## Statistics

1. A group of pupils from Trinity High School were asked where they live. Look at the graph to answer the questions:
a) How many girls:
i) live in Renfrew?
ii) live in Erskine?
iii) Took part in the surevey?
b) How many more boys live in
 Renfrew than in Erskine?
c) How many pupils took part in the survey?

Family Survey

2). Some pupils were asked how many brothers and sisters (siblings) they had.
a). Which was the most popular number of siblings ?
b). Which was the least popular number of siblings ?
c). How many pupils have 0 siblings ?
d). How many pupils have 4 siblings ?
e). How many more pupils have 1 sibling than 3 siblings ?
f). How many more pupils have 2 sibling than 5 siblings ?
g). How many pupils were asked in total ?
3. Here is a pie chart showing eye colour in S1.
a) What fraction and percentage of pupils have:
i) green
ii) hazel
iii) brown
iv) grey eyes?
b) 130 pupils took part in the survey. How many had:
i) green
ii) hazel
iii) brown
iv) grey or blue eyes?

4. Tracy does a survey about favourite types of music. She draws a frequency table.

Draw a neat bar chart of the information, clearly labelling the axes.

How many people took part in this survey?

| Music | Frequency |
| :---: | :---: |
| Jazz | 7 |
| Rock | 17 |
| Pop | 25 |
| Rave | 19 |
| Funk | 23 |

5. Bob goes on a cycle ride and plots these points on his jouney.

| Time | 9 am | 10 am | 11 am | 11.30 am | 12.30 pm | 2 pm | 3.30 pm | 5 pm | 5.30 pm | 6 pm |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Distance $(\mathrm{Km})$ | 0 | 5 | 15 | 15 | 30 | 30 | 35 | 50 | 55 | 55 |

a). Draw a set of axes. Across the bottom label it Time and mark from 9am to 6pm.

Up the side label it Distance travelled (in $\mathbf{K m}$ ) and mark it from 0 to 55 Km .
b). Plot the points in the table and join them up with straight lines.

Use your graph to answer these questions.
c). How long did Bob stop for lunch ?
d). In which hour period of time did he cycle fastest ?
e). How far had he cycled by
i). 10.30 am
ii). 4 pm
iii). 12 pm ?
f). What time was it when Bob had cycled
i). $\quad 2 \frac{1}{2} \mathrm{Km}$
ii). 45 Km
iii). 25 Km ?
6. 200 pupils were asked their favourite subject in school. The table below shows the results:

Draw a pie chart of this information, clearly labelling each section.

| Subject | Number of pupils |
| :---: | :---: |
| Maths | 60 |
| English | 20 |
| PE | 80 |
| Music | 40 |

7. For each set of values, calculate: - (i) the range (ii) the mean.
(a) test scores: - 35, 42, 19, 26, 53
(b) Shoes sizes: $-4,4 \frac{1}{2}, 2 \frac{1}{2}, 3,5,3 \frac{1}{2}, 4 \frac{1}{2}, 5$

(c) Loose change: - 84p, 18p, 9p
(d) Length of index finger:- $5.9 \mathrm{~cm}, 7.6 \mathrm{~cm}, 6.4 \mathrm{~cm}, 5.7 \mathrm{~cm}, 6.9 \mathrm{~cm}, 7.1 \mathrm{~cm}$
8. For this quadrilateral find:-
(a) the range of lengths
(b) the mean length (to 1 decimal place)


## Answers

## Fractions

1. $A=\frac{2}{6}$
$B=\frac{3}{6}$
$\mathrm{C}=\frac{1}{2}$
$D=\frac{1}{3}$
$\mathrm{E}=\frac{3}{9}$
$F=\frac{4}{8}$
$\mathrm{G}=\frac{2}{4}$

Matching: $A=D=E, B=C=F=G$
2. These are some of the acceptable answers - there are lots more - please check with you teacher if you are not sure if your answer is correct:
a) $\frac{4}{6}, \frac{6}{9}, \frac{8}{12}, \frac{10}{15}, \frac{12}{18}, \frac{20}{30}$
b) $\frac{2}{8}, \frac{3}{12}, \frac{4}{16}, \frac{5}{20}, \frac{6}{24}, \frac{10}{40}$
c) $\frac{6}{10}, \frac{9}{15}, \frac{12}{20}, \frac{15}{25}, \frac{18}{30}, \frac{30}{50}$
d) $\frac{8}{18}, \frac{12}{27}, \frac{16}{36}, \frac{20}{45}, \frac{24}{54}, \frac{40}{90}$
3. a) $\frac{5}{7}$
b) $\frac{1}{3}$
C) $\frac{6}{7}$
d) $\frac{3}{4}$
4. a) $6 \frac{1}{4}$
b) $2 \frac{4}{5}$
c) $7 \frac{5}{7}$
d) $3 \frac{5}{20}$
5. a) $\frac{8}{5}$
b) $\quad \frac{44}{9}$
c) $\quad \frac{37}{10}$
d) $\frac{11}{4}$
6. a) $\frac{3}{5}$
b) $1 \frac{7}{15}$
c) $3 \frac{5}{8}$
d) $6 \frac{3}{10}$
e) $\frac{2}{7}$
f) $\frac{1}{2}$
g) $3 \frac{5}{12}$
h) $2 \frac{2}{3}$
7. a) $£ 90$
b) 38 kg
c) $\$ 360$
d) $£ 14700$
8. Jane needs to put the decimal point in and carry the remainder so the division sum looks like this:
15.5 the next step is: 15.5 and since money always has 2 decial places,
$\qquad$ the answer is $£ 77.50$

## Decimals

1(a) 4.3
(b) 126.8
(c) 88.0
(d) 200.0
2(a) 138.244
(b) 98.379
(c) 47.880
(d) 5672.339
3(a) $5000+3000=8000$
(b) $9000-500=8500$
(c) $10000 \div 200=50$
(d) $800 \times 600=480000$
4(a) 596.073
(b) 258.35
(c) 582.692
(d) 132.41
5. Less than 9.75 seconds
6. Ellen does not have enough money as she had $\$ 90$ and needs $\$ 91.85$.
7. 0.473 cm
8. 4.963 m
9. $£ 59.85$
10. $£ 26$

## Length and Perimeter

1(a) 900 cm
(b) 7 cm
(c) 62 cm
(d) 2.2 cm
(e) 530 cm
(f) 850 cm
2(a) 6 km
(b) 0.07 km
(c) 3400 km
(d) 90.53 km
(e) 0.125 km
(f) 5.5 km
3. 1.41 m
4. 4.2 km
5. 572 cm or 5.72 m
$6(a) 15 \mathrm{~cm}$
(b) 35inches
(c) 36 ft
(d) 13 km
7. 14.7 m or $1470 \mathrm{~cm} \quad$ 8. Width $=9 \mathrm{~m} \quad$ Perimeter 54 m
9(a) $2 a+a+2 a+a=6 a$
(b) $L+L+L+L=4 L$
(c) $3 x+5 x+3 x=13 x$
10(a) $P=28 \mathrm{~cm} \quad A=45 \mathrm{~cm}^{2}$
(b) $P=30 \mathrm{~cm} \quad A=30 \mathrm{~cm}^{2}$
(c) $P=34 \mathrm{~cm} \quad A=38 \mathrm{~cm}^{2}$
(d) $P=29 \mathrm{~cm} A=28 \mathrm{~cm}^{2}$
11. $P=440 \mathrm{~cm}$ or 4.4 m

## Statistics

1. ai 7
ii 16
ii 23
b 6
c 49
2a 1
b 5
C 14
d 11
e 13
f 20
g 100

3a green 30\%, hazel 20\%, brown 30\%, grey 10\%
b green 13, hazel 26, brown 39, grey and blue 52
4.


4b) 91 people took part in the survey
6.

5.

c) 2 hours
d) $11.30 \mathrm{am}-12.30 \mathrm{pm}$
ei) 10 km
ii) 35 km
iii) 30 km
fi) 9.30 am
ii) 4.30 pm
iii) 12.15 pm
7.

| Question | Range | Mean |
| :---: | :---: | :---: |
| a | 34 | 35 |
| b | 2.5 | 4 |
| c | 75 | 37 |
| d | 1.9 | 6.6 |

8. a) 3.1 m
b) 5.9 cm (to 1 dp )
