

Sutton Maths Class

Year 4 - Week 19

Starter/Homework:

(Starred questions are optional)

1 Simplify:

a) $\frac{6}{9} = \frac{2}{3}$ b) $\frac{24}{160} = \frac{6}{40} = \frac{3}{20}$

2 Complete the following:

$$\frac{3}{8} = \frac{?}{40} = \frac{60}{?}$$

15
160

3 Convert the following to mixed numbers and simplify where possible:

a) $\frac{45}{3} = 15$ b)* $\frac{152}{3} = 50\frac{2}{3}$

15
3 | 45
31 15 50 r 2
3 | 152
31 52

4* Find $\frac{2}{7}$ of 700kg. 200kg.

Hint: change to grams to make it easier.

5 a) Find 40% of £350. 35 x 4 = £140
b) Find 12% of £700. 70 + 14 = £84

6 Decrease £800 by 5%. 800 - 40 = £760

Hint: change to pence if you need to.

7 Write $5\frac{4}{1000}$ as a decimal. 5.004

8 Round 5.89 to the nearest tenth. 5.9

9 Solve $9x - 10 = 53$ $x = \underline{7}$

9x = 63

10*** Solve $\frac{1}{4}x = 20$ $x = \underline{80}$

11* I think of a number, multiply by 5, subtract 10 and the answer is 50. What was the number?

$$\begin{aligned} 5x - 10 &= 50 \\ 5x &= 60 \\ x &= \underline{12} \end{aligned}$$

12 a) $9 - 11 = -2$
b) $-2 - 12 = -14$
c* $5 - 35 = -30$
d* $-10 - 23 = -33$
e) $-6 - 6 = -12$
f) $0 - 15 = -15$
g* $2 - 100 = -98$

13 a) $-5 \times -5 = 25$
b) $-250 \div -50 = 5$
c) $(-1)^2 = 1$
d** $-15 + -6 \times -10 = 45$
(don't forget BIDMAS)
e*** $(-8)^2 \div (-2)^2 = 16$
64 ÷ 4 = 16

14* $(10 - 5)^2 + 16 \div 2^2 = 29$

25 + 4

15**** If $a = \frac{3}{5}$, $b = 10$ and

$c = \frac{1}{3}$ find $a \times c \div b$.

$\frac{3}{5} \times \frac{1}{3} \div 10 = \frac{1}{5} \div 10 = \frac{1}{5} \times \frac{1}{10} = \frac{1}{50}$

16 Simplify:

a) $24 : 16$ b) $100 : 20$

6 : 4 5 : 1
3 : 2

17 Split £125 in the ratio 1:4.

25 25 x 1 = 25
5 | 125 25 x 4 = 100

18 List the factors of:

a) 30 b) 40

1, 2, 3, 5, 6, 10, 15, 30 1, 2, 4, 5, 8, 10, 20, 40

19* Draw a factor tree for 60.



20 a) $\frac{2}{5} + \frac{1}{4} = \frac{13}{20}$ b) $\frac{2}{7} - \frac{2}{14} = \frac{2}{14} = \frac{1}{7}$

c) $\frac{5}{30} \times \frac{2}{3} = \frac{5}{9}$ d) $\frac{3}{4} \div \frac{3}{4} = 1$

Sutton Maths Class

- 21 Complete the following:
- a $0.01 \text{ kg} = \square \text{ g}$ 10
 - b $3800 \text{ ml} = \square \text{ litres}$ 3.8
 - c $7200 \text{ m} = \square \text{ km}$ 7.2
 - d $0.9 \text{ cm} = \square \text{ mm}$ 9
 - e* $0.492 \text{ m} = \square \text{ mm}$ 492
 - f* $600 \text{ g} = \square \text{ kg}$ 0.6
 - g* $293 \text{ ml} = \square \text{ litres}$ 0.293
 - h** $11 \text{ mm} + 0.3 \text{ cm} = \underline{1.4} \text{ cm}$
 - i** $6 \text{ kg } 200 \text{ g} = \underline{6.2} \text{ kg}$

- 22** What fraction of 6 litres is 500ml? $\frac{500}{6000} = \frac{1}{12}$

- 23* Decrease 0.3 litres by 100ml. Give your answer in ml. 200 ml

- 24* $300 \text{ ml} \times 6 = \underline{1.8} \text{ litres}$
 1800 ml

- 25 Complete the following sequences:

a $1, 1, 2, 3, 5, 8, \underline{13}, \underline{21}$

b $8, 11, 14, 17, \underline{20}, \underline{23}$
 $+3 \quad +3 \quad +3 \quad +3 \quad +3$

c* $3, 1, -1, -3, \underline{-5}, \underline{-7}$

d* $-10, -15, -20, -25, \underline{-30}, \underline{-35}$

e* $3, 4, 6, 8, 9, 12, 12, \underline{16}, \underline{15}$

f* $5, 7, 10, 14, 19, \underline{25}, \underline{32}$
 $+2 \quad +3 \quad +4 \quad +5 \quad +6 \quad +7$

- 26 Find the first four terms of the sequence with nth term

$7n - 3$
 $7 \times 1 - 3 = 4$
 $7 \times 2 - 3 = 11$
 $7 \times 3 - 3 = 18$
 $7 \times 4 - 3 = 25$

- 27* Find the 10th term of the sequence with nth term $9n + 1$. 91

- 28**** Find the 10th term of the sequences with nth term $2n^2$ (Don't forget BIDMAS).
 $2 \times 10^2 = 2 \times 100 = 200$

- 29 The product of an odd number and an odd number is odd (odd/even) $\hat{=} 5 \times 5 = 25$

- 30 List all three digit numbers you can make from the digits 9, 2, 5. $925, 952, 295, 259, 592, 529$

- 31 Calculate:

a 9^2 81 b*** $8^2 - 3^2$
 $64 - 9 = 55$

c $\sqrt{16}$ 4

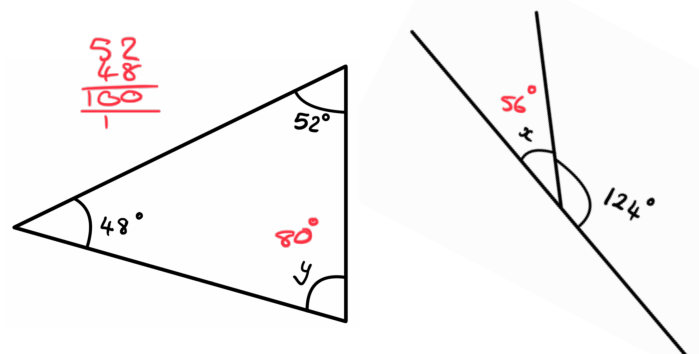
d*** $\sqrt{81} - \sqrt{9}$
 $9 - 3 = 6$

- 32 What is the 9th square number? 81

- 33 What is the 4th triangular number? $\dots \dots \dots \textcircled{10}$

- 34*** Calculate $10^2 - 2^3 + \sqrt{49}$
 $100 - 8 + 7 = 99$

- 35 Find x and y:



Sutton Maths Class

Questions:

1 Convert the following **decimals to percentages**:

a	0.82	82	b	0.28	28
c	0.18	18	d	0.87	87
e	0.7	70	f	0.3	30
g	0.99	99	h*	0.125	12.5
i	0.4	40	j*	0.345	34.5
k	0.2	20	l	0.1	10
m	0.01	1	n*	0.001	0.1
o*	0.9316	93.16	p	0.5	50

2 Convert the following **percentages to decimals**:

a	74%	0.74	b	28%	0.28
c	12%	0.12	d	79%	0.79
e	3%	0.03	f	2%	0.02
g	80%	0.8	h	15%	0.15
i	20%	0.2	j	5%	0.05
k	8%	0.08	l	1%	0.01
m*	0.5%	0.005	n*	4.5%	0.045
o*	12.5%	0.125	p*	36.5%	0.365

3 Convert the following **percentages to fractions** (and simplify where possible):

a	30%	$\frac{3}{10}$	b	25%	$\frac{1}{4}$
c	66%	$\frac{66}{100} = \frac{33}{50}$	d	28%	$\frac{28}{100} = \frac{7}{25}$
e	10%	$= \frac{1}{10}$	f	50%	$\frac{1}{2}$
g	80%	$\frac{8}{10} = \frac{4}{5}$	h	35%	$\frac{35}{100} = \frac{7}{20}$
i	48%	$\frac{48}{100} = \frac{12}{25}$	j	5%	$\frac{5}{100} = \frac{1}{20}$
k	1%	$\frac{1}{100}$	l	8%	$\frac{8}{100} = \frac{2}{25}$
m	17%	$\frac{17}{100}$	n	64%	$\frac{64}{100} = \frac{32}{50} = \frac{16}{25}$
o	15%	$\frac{15}{100} = \frac{3}{20}$	p***	0.5%	$\frac{5}{1000} = \frac{1}{200}$

4 Convert the following **decimals to fractions** (you can convert to percentages first if you prefer):

a	0.25	$\frac{1}{4}$	b	0.18	$\frac{18}{100} = \frac{9}{50}$
c	0.65	$\frac{65}{100} = \frac{13}{20}$	d	0.34	$\frac{34}{100}$
e	0.98	$\frac{98}{100} = \frac{49}{50}$	f	0.99	$\frac{99}{100}$
g	0.32	$\frac{32}{100} = \frac{8}{25}$	h	0.6	$\frac{6}{10} = \frac{3}{5}$
i	0.9	$\frac{9}{10}$	j	0.2	$\frac{2}{10} = \frac{1}{5}$
k*	0.325	$\frac{325}{1000} = \frac{65}{200}$	l	0.1	$\frac{1}{10}$
m	0.64	$\frac{64}{100} = \frac{16}{25}$	n*	0.05	$\frac{5}{100} = \frac{1}{20}$
o*	0.01	$\frac{1}{100}$	p*	0.125	$\frac{125}{1000} = \frac{1}{8}$

5 Convert the following **fractions to decimals**:

a	$\frac{3}{10}$	0.3	b	$\frac{7}{10}$	0.7
c	$\frac{5}{10}$	0.5	d	$\frac{34}{100}$	0.34
e	$\frac{78}{100}$	0.78	f	$\frac{9}{10}$	0.9
g	$\frac{897}{1000}$	0.897	h	$\frac{375}{100}$	0.375
i*	$\frac{5}{100}$	0.05	j*	$\frac{35}{1000}$	0.035
k**	$\frac{1}{5}$	0.2	l**	$\frac{3}{5}$	0.6
m**	$\frac{17}{20}$	0.85	n**	$\frac{36}{50}$	0.72
o****	$\frac{1}{3}$	0.3 or 0.33...	p****	$\frac{1}{8}$	0.125 $\frac{0.125}{8} = 1.5625$

Sutton Maths Class

6 Convert the following fractions to percentages:

- a $\frac{7}{10}$ 70 b $\frac{2}{10}$ 20
- c $\frac{9}{10}$ 90 d $\frac{32}{100}$ 32
- e $\frac{88}{100}$ 88 f $\frac{1}{10}$ 10 7
- g* $\frac{550}{1000}$ 55 h $\frac{30}{100}$ 30
- i* $\frac{5}{100}$ 5 j* $\frac{35}{1000}$ 3.5
- k** $\frac{1}{5}$ 20 l** $\frac{2}{5}$ 40
- m** $\frac{4}{20}$ 20 n** $\frac{35}{50}$ 70
- o**** $\frac{1}{3}$ 33.3̄ p**** $\frac{1}{8}$ 12.5

7 Use the quickest method to find:

- a 20% of £400 80
- b $33\frac{1}{3}\%$ of 600kg 200
- c 0.3 x 800 240
- d* 12.5% of 1600g
(use Q2, o for the easiest method) $1600 \div 8 = 200$
 $12.5\% = \frac{1}{8}$

e $66\frac{2}{3}\%$ of £120 80

f 10% of 60ml 6

g** 0.125 x 16 $\frac{1}{8}$ of 16 = 2
(use Q4,p for the quickest method)

Convert the following to the equivalent stated in the brackets:

a 60% $\frac{3}{5}$ (fraction)

b $\frac{4}{5}$ 80% (percentage)

c 0.12 $\frac{12}{100} = \frac{6}{50} = \frac{3}{25}$ (fraction)

d 20% 0.2 (decimal)

e 0.48 48 (percentage)

f $\frac{19}{20}$ 95 (percentage)

g 85% $\frac{85}{100} = \frac{17}{20}$ (fraction)

h** $\frac{2}{40} = \frac{1}{20} = 0.05$ (decimal)

i 0.08 8 (percentage)

j 19% 0.19 (decimal)

k** 0.2 x 0.4 (answer as a fraction)
 $0.08 = \frac{8}{100} = \frac{2}{25}$

l $\frac{1}{2} \times \frac{2}{5} = 0.2$ (decimal)

Sutton Maths Class

8 Complete the table below:

Fraction	Decimal	%
$\frac{1}{2}$	0.5	50%
$\frac{1}{4}$	0.25	25
$\frac{3}{4}$	0.75	75%
$\frac{1}{10}$	0.1	10
$\frac{1}{100}$	0.01	1%
$\frac{1}{5}$	0.2	20%
$\frac{1}{3}$	0.3̄	33.3̄
$\frac{1}{8}$	0.125	12.5%

10*** Use your answers to question 9 to find the following as decimals:

a $\frac{5}{9}$ 0.5̄ b $\frac{3}{8}$ 0.375

c $\frac{2}{7}$ 0.285714̄ d $\frac{5}{12}$ 0.416̄

e $\frac{3}{14}$ 0.2142857̄ f $\frac{5}{6}$ 0.83̄

9**** Use bus stop to convert the following to decimals:

a $\frac{1}{9}$ 0.11... or 0.1̄ b $\frac{1}{8}$ 0.125

c $\frac{1}{7}$ 0.142857̄ or 0.142857̄ d $\frac{1}{12}$ 0.083̄

$\frac{0.142857}{7 \overline{)1.000000}}$

e $\frac{1}{14}$ 0.0714285̄ f $\frac{1}{6}$ 0.16̄