المدرسة الوطنية الأرثوذكسية الشميساني

The National Orthodox School Shmaisani

Revision Sheet |

Lower Secondary Stage (6-8)

1st Semester | 2023-2024

Subject: Math

Chapter: 1 and 2 (2.1-2.2)

Objectives: Answer key.

- To review the material covered in chapter 1 and 2 (2.1-2.2)

Q1: Last season, Hodder Hurricanes won $\frac{5}{12}$ of its matches, drew $\frac{2}{9}$ and lost the rest.
Show that it lost $\frac{13}{36}$ of its matches.

$\frac{3\times5}{3\times12} + \frac{2\times4}{9\times4} =$ $\frac{36\times1}{36\times1} - \frac{23}{36}$

$\frac{15}{36} + \frac{8}{36} = \frac{23}{36}$ $\frac{36}{36} - \frac{23}{36} = \boxed{\frac{13}{36}}$

Q2: Of the teachers in a school, $\frac{3}{4}$ are women.
Of the women teachers in the school, $\frac{5}{6}$ are married.
Work out the fraction of teachers in the school who are married women.
Give your fraction in its simplest form.

$\frac{5}{\cancel{6}_2} \times \frac{\cancel{3}^1}{4} = \frac{5}{8}$ Are married women.

Q3: Pat's dog eats $\frac{2}{3}$ of a tin of food each day.
She has 8 tins of dog food.
How many days will the 8 tins last?

$8 \div \frac{2}{3}$

$\cancel{8}^4 \times \frac{3}{\cancel{2}_1} = 12$ days.

Q4: Express 63 as a percentage of 350

$\frac{63 \div 7}{350 \div 7} = \frac{9 \times 2}{50 \times 2} = \frac{18}{100} = 18\%$

Q5: An art dealer bought a painting for £2500 and sold it for £3300
Work out her percentage profit.

Profit = 3300 − 2500

Percentage Profit $= \frac{800}{2500} = \frac{8 \times 4}{25 \times 4} = \frac{32}{100} = 32\%$

Q6: The population of Malta is 4×10^5 = 400000
The population of the United Kingdom is 6×10^7 = 60000000
Find the ratio of the population of Malta to the population of the United Kingdom.
Give your ratio in the form 1 : *n*

Malta : United Kingdom
4000000 : 60000000
(4 : 600) ÷ 4
(1 : 150)

Q7: The length of an aeroplane is 7.5 m. ⇒ 7.5 × 100 = 750 cm.
A scale model is made of the aeroplane.
The length of the scale model is 30 cm.
a) Express the scale of the model in the form 1 : *n*

The wingspan of the scale model is 36 cm.
b) Work out the wingspan of the real aeroplane.
Give your answer in metres.

a) Model : Real
(30 : 750) ÷ 30
(1 : 25)

b) 1 : 25
36 : x

x = 36 × 25
x = 900 cm
x = 900 ÷ 100 = 9 m

Q8: A total of 64 320 people watched the football match between United and City.
The ratio of United supporters to City supporters was 15 : 1
Work out the number of United supporters who watched the match.

15+1 = 16 Shares
64320 ÷ 16 = 4020 People (amount of 1 share).
4020 X 15 = 60300 United supporters

Q9: John and Pavinder share some money in the ratio 5 : 7
John receives $240
Work out the amount of money that Pavinder receives.

J P
5 : 7
48 x (240 : x) x48
x = 7 x 48 = $ 336

Q10: Brass is made from copper and zinc in the ratio 13 : 7 by weight.
a) Work out the weight of copper and the weight of zinc in 5 kg of brass. 5kg = 5000g
A brass ornament contains 350 grams of zinc.
b) Work out the weight of copper in the ornament.

b)
C Z
50x (13 : 7) x50
x : 350
x = 13 x 50
x = 650g of copper

a) 13+7 = 20
5000 ÷ 20 = 250g
250 X 13 = 3250g of Copper
250 X 7 = 1750 g of Zinc

Q11: The scale of a map is 1 : 5 000 000
On the map, the distance between two airports is 3.6 cm.
a) Work out the real distance between the airports.
Give your answer in kilometres.
The real distance between two railway stations is 30 km.
b) Work out the distance on the map between the two railway stations.

Map Real
a) 1 : 5000 000
3.6 : x
x = 3.6 X 5000 000
x = 18000000
x = 18000 000 ÷ 100 000
x = 180km.

b) 30km = 30 X 100 000 = 3000 000 cm

1 : 5000 000
x : 3000 000

5000000 / 5000000 x = 3000000 / 5000000
x = 3/5 = 0.6 cm.

Q12: Here are the ingredients needed to make a pie for 4 people.

Ingredients for 4 people
150 g of pastry
450 g of potatoes
220 g of onions
320 g of bacon

Work out the amount of each ingredient needed to make a pie for 10 people.

$10 \div 4 = 2.5$

$150 \times 2.5 = 375$ g of pastry

$450 \times 2.5 = 1125$ g of potatoes.

$220 \times 2.5 = 550$ g of onions.

$320 \times 2.5 = 800$ g of bacon

Q13: Kurt went on holiday to England.
He changed €1800 to pounds.
The exchange rate was €1 = £0.69

a) Work out the number of pounds Kurt received.

Kurt returned home with £198
He changed his £198 to euros.
The new exchange rate was €1 = £0.66

b) Work out the number of euros Kurt received.

a) Exchange rate ⇒ €1 = £0.69

€	£
1	0.69
1800	x

$x = 1800 \times 0.69$

$x = £1242$

b) €1 = £0.66 (New exchange rate).

€	£
1	0.66
x	198

$\frac{0.66}{0.66} x = \frac{1 \times 198}{0.66}$

$x = \frac{198 \times 100}{0.66 \times 100}$

$x = \frac{19800}{66} = €300$