FRACATIONS/DECIMALS/PERCENTAGES

Q.1. Fill in the blanks in these equivalent fractions:

a)  b) 

c)  d) 

Q.2. Reduce these fractions to their simplest form:

a) = b)  = c)  = d) =

Q.3. Write these decimals as fractions:

a) 0.5 = b) 0.3 = c) 0.25 = d) 0.75 =

Q.4. Write these percentages as decimals:

a) 25% = b) 46% = c) 60% = d) 6% =

Q.5. Write the percentages from question 4 as fractions.

Write them to their simplest form:

a) b) c) d)

Q.6. Work out:

a) = b) 

**FRACTION, DECIMAL, PERCENTAGE TEST**

**SECTION A: calculator work**

1. Copy and complete the following table to show each number expressed as a fraction, decimal and percentage:

|  |  |  |
| --- | --- | --- |
| fraction | decimal | percentage |
| 1/2 | 0.5 | 50% |
| 3/20 |  |  |
|  | 0.35 |  |
|  |  | 76% |
| 5/8 |  |  |

2. Maria scored 65 out of 72 in her Maths test and 41 out of 45 in her English test.

Which of these was the better result?

3. Research has shown that approximately 5/16 of the population have blue eyes. If a school has a total of 784 pupils, how many of its pupils might you expect to have blue-eyes?

4. In a general election, candidates have to pay a deposit, which is only returned if they obtain at least 5% of the total votes cast in their constituency. If a total of 42,560 people vote in a certain constituency, what is the minimum number of votes which a candidate must poll if he is not to lose his deposit?

5. If another candidate in the same election polled 13,165 votes, what percentage of the votes did they receive? Give your answer correct to 1 decimal place.

6. *Use the single multiplier method to answer these questions. Show your workings clearly:*

a) In 2000, the number of visitors to Tipley Theme Park was 35,625. The owners have set themselves the target of increasing the total number of visitors by 12 % in the year 2001. How many visitors do they need to attract in 2001?

b) Mr. Jones earns 23, 500 p.a. If his company awards him a pay

increase of 4%, what will his new salary be?

c) A television costs 260 plus VAT, which is charged at 17.5%. What is the total cost?

d) The price of a car costing 7,980 is reduced by 15% in a sale. What is the sale price?

e) When potatoes are peeled they lose approximately 4% of their weight. What weight of peeled potatoes would you expect to get from a 2kg bag?

**SECTION B: non-calculator**

1. Write these numbers in order from the smallest to the largest:

9/25 3.7% 0.355 7/20 37%

2. A school has 105 pupils in year 8. If 4/7 of them go on an activity camp, how many pupils is this?

3. What is 36% of 250?

4. A fungal infection kills 225 out of the 1875 trees in a wood.

a) What fraction are killed? Write your answer in its simplest form.

b) What percentage are killed?

5. *Work in fractions and always write your answers in their simplest form:*

a)  b)  c)  d) 

e)  f)  g)  h) 

6. *Work in decimals and show how you worked out the answers:*

a) 0.045 + 0.003 + 12.2 b) 2.017 – 1.088 c) 0.037 x 100

d) 1.006 100 e) 0.64 x 2000 f) 0.054 9

g) 0.7 x 0.05 h) 0.48 80 i) 5 0.25

j) 0.063 0.3 k) 0.23 x 0.0016 l) 1.2 x 0.015

**FDPR Revision**

**Notes:** To **Cancel Fractions** to the simplest form you look for a number that divides into both the top and bottom (Common factor) and then divide by that number Eg. 24\32 = 12\16 as both divide by 2

Keep repeating the process untill there is no common factor.

[Alternatively enter the fraction on your calculator using the ab/c button and press the = button]

**Converting Fractions to Decimals** you divide the top number by the bottom number.

[Alternatively enter the fraction on your calculator using the ab/c button and press = and press ab/c again]

**Converting Decimals to Percentages** you multiply by 100.

**Converting Percentages to Fractions**, remember that % are out of 100 so 20% = 20/100.

**Finding Percentages of an Amount** you change the percentage to a decimal and multiply by the amount.

Eg. 15% of 40 is 0.15 x 40 = 6.00

**Percentage Increases (Decreases)** are found by dividing the increase (or decrease) by the original value.

Eg. A wage rise from 285 a week to 315 a week is a 30 rise and a percentage increase of

30/285 x 100

**Problems:**

1. Cancel the following fractions to their lowest terms by dividing the top and bottom by the same number.

(a) Without a calculator (i) 6\8 (ii) 24\30 (iii) 25\175 (iv) 10\15 (v) 30\180

(b) Check using the ab/c button on your calculator if you have one.

2. Complete the following table:



3. Place these 5 numbers in order, smallest first: 3/4, 72%, 1\11, 0.73, 29/40

4. Find: (a) 30% of 27.00 (b) 63% of 1.12 (c) 0.13 of 17.50

Give answers to the nearest penny.

5. Convert the following to fractions in their lowest terms:

(a) 6% (b) 65% (c) 0.15 (d) 0.02

6. 6% of students voted for Rave music, 3/8 for Rock and 0.32 for Pop music. What percentage of the students didn't vote?

7. If you had a choice of the following which would you buy?

(i) A TV reduced in price by 16% from 420 or

(ii) A TV increased in price by 27% from 280? Give your reasons.

**Examination Questions:**

1. Find 3/4 of 240

2. Find 20% of 360

3. A transistor radio normally costs 40.

(a) How much would it cost at a Sale at Mini Market where prices are 1/4 off all goods?

(b) How much would it cost at a Sale at Superstore where prices are 30% off?

(c) Which is the bigger reduction, 1/4 off, or 30% off?

4 (a) Harry is paid 180 per week, if she is awarded a 8% pay rise how much will she be paid per week?

(b) 1400 people voted about this pay rise and there was a majority of 3 to 2 in favour of accepting.

How many workers voted to accept the pay rise?

(c) Altogether there are 1600 workers at the factory. What percentage of them voted to accept the pay rise?

(d) 3\4 of the workers at the factory are women. A fifth of the womwn voted against the pay rise .

Calculate the number of women who voted against.

5. In a restaurant customers have a choice of fish, pasta, roast beef or a vegetarian meal. On one particular day, there were 144 customers.

On a pie chart each meal takes up the following angle Fish = 90o

Pasta = 125o

Roast Beef = 60o

Vegetarian = 85o.

(a) How many of the 144 customers chose Roast Beef?

(b) What percentage of the customers chose Fish?

(c) "The total number who chose Beef or Vegetarian was less than the number who chose Pasta"

Is this statement true or false? Give your reason.

6. Ice cream is sold in 3 sizes: Small = 42p, Medium = 62p, Large = 1.10

(a) The small size is labelled "1\3 off marked price." What is the new price of the small size?

(b) The large size is labelled "20% off marked price." How much is taken off the price of the large size?

(c) The medium size is labelled "16p off". Calculate the amount taken off as a percentage of the marked price. Give your answer correct to 2 significant figures.

(d) What size of ice cream has had the largest percentage reduction?

7. Wayne has to make a journey of 80 miles. He travels 0.75 of the way by train and 0.8 of the rest by bus.

(a) How far does he travel by train? (b) How far does he travel by bus?

8. Thirty people were asked to name their favourite newspaper. The results are shown below:



(a) What fraction chose the Sun?

(b) What percentage chose the Guardian?

(c) What fraction did not choose the Times?

9. The following table shows the price of a calculator over the space of 5 years.



(a) What is the percentage increase between 1991 and 1992?

(b) What is the percentage increase between 1992 and 1993?

(c) What is the percentage decrease between 1994 and 1995?