JustMaths

Fractions – including context & with percentages

Name: _____

Total Marks: _____

Q.	Max	Actual	RAG	Q.	Max	Actual	RAG
1	4			15	2		
2	2			16	5		
3	2			17	3		
4	3			18	4		
5	2			19	3		
6	3			20	4		
7	3			21	2		
8	3			22	4		
9	4			23	4		
10	2			24	4		
11	5			25	3		
12	2			26	4		
13	3			27	3		
14	4			28	3		

Q1.

(a) Work out $\dfrac{2}{7} + \dfrac{1}{5}$

....(2)

(b) Work out $1\dfrac{2}{3} \div \dfrac{3}{4}$

.... (2)

(Total for question = 4 marks)

Q2. Work out $\dfrac{1}{3} + \dfrac{5}{9}$

....

(Total for question = 2 marks)

Q3. Work out $\dfrac{2}{5} + \dfrac{3}{8}$

Give your answer in its simplest form.

....

(Total for Question is 2 marks)

Q4. Work out $3\dfrac{4}{5} + \dfrac{3}{7}$

Give your answer as a mixed number in its simplest form.

....

(Total for question = 3 marks)

Q5. Work out $3\dfrac{1}{3} \div 4\dfrac{3}{4}$

....

(Total for Question is 2 marks)

Q6. (a) Work out $\dfrac{1}{2} \times \dfrac{1}{5}$

....**(1)**

(b) Work out $\dfrac{1}{2} + \dfrac{3}{8}$ Give your answer in its simplest form.

....**(2)**

(Total for Question is 3 marks)

Q7. (a) Work out $\dfrac{1}{7} \times \dfrac{2}{3}$

.... **(1)**

(b) Work out $\dfrac{3}{5} - \dfrac{1}{3}$

.... **(2)**

(Total for Question is 3 marks)

Q8. Work out $3\dfrac{1}{3} \times 4\dfrac{2}{5}$

Give your answer as a mixed number in its simplest form.

....

(Total for question = 3 marks)

Q9. (a) Work out $\dfrac{2}{5} \times \dfrac{3}{8}$

Give your answer in its simplest form.

....(2)

(b) Work out $\dfrac{3}{8} + \dfrac{1}{4}$

....(2)

(Total for Question is 4 marks)

Q10. Here are four fractions.

$$\dfrac{1}{2} \qquad \dfrac{17}{24} \qquad \dfrac{3}{4} \qquad \dfrac{5}{12}$$

Write these fractions in order of size.
Start with the smallest fraction.

....

(Total for question is 2 marks)

Q11. Here are five fractions.

$$\dfrac{2}{8} \qquad \dfrac{10}{40} \qquad \dfrac{12}{48} \qquad \dfrac{5}{24} \qquad \dfrac{20}{80}$$

One of these fractions is **not** equivalent to $\dfrac{1}{4}$

(a) Write down this fraction.

.... (1)

(b) Work out $\dfrac{2}{7} + \dfrac{1}{14}$

.... (2)

(c) Work out $\dfrac{4}{5} \div \dfrac{3}{10}$

Give your answer in its simplest form.

.... **(2)**

(Total for question = 5 marks)

Q12. Work out the difference in value between $\dfrac{1}{4}$ and 30%.

....

(Total for Question is 2 marks)

Q13. Here are two fractions: $\dfrac{2}{3}$ $\dfrac{7}{8}$

Which of these fractions has a value closer to ¾?

You must show clearly how you get your answer.

(Total for Question is 3 marks)

Q14. (a) Work out $2\dfrac{1}{4} \times 3\dfrac{1}{3}$

Give your answer as a mixed number in its simplest form.

.... **(3)**

(b) Write the numbers 3, 4, 5 and 6 in the boxes to give the greatest possible total.
You may write each number only once.

$$\boxed{}\dfrac{1}{\boxed{}} + \boxed{}\dfrac{2}{\boxed{}}$$

(1)

(Total for question = 4 marks)

Q15. Lethna worked out $\dfrac{2}{5} + \dfrac{1}{2}$

She wrote:

$$\frac{2}{5} + \frac{1}{2} = \frac{2}{10} + \frac{1}{10} = \frac{3}{10}$$

The answer of $\dfrac{3}{10}$ is wrong.

(a) Describe one mistake that Lethna made.

....

....**(1)**

Dave worked out $1\dfrac{1}{2} \times 5\dfrac{1}{3}$

He wrote:

$$1 \times 5 = 5 \quad \text{and} \quad \frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$$

$$\text{so} \quad 1\frac{1}{2} \times 5\frac{1}{3} = 5\frac{1}{6}$$

The answer of $5\dfrac{1}{6}$ is wrong.

(b) Describe one mistake that Dave made.

....

....**(1)**

(Total for question is 2 marks)

Q16. Shazia buys 10 boxes of drinks.

The cost of each box of drinks is £5
Each box holds 12 cans of drink.

Shazia sells $\dfrac{2}{3}$ of the total number of cans for 60p each.

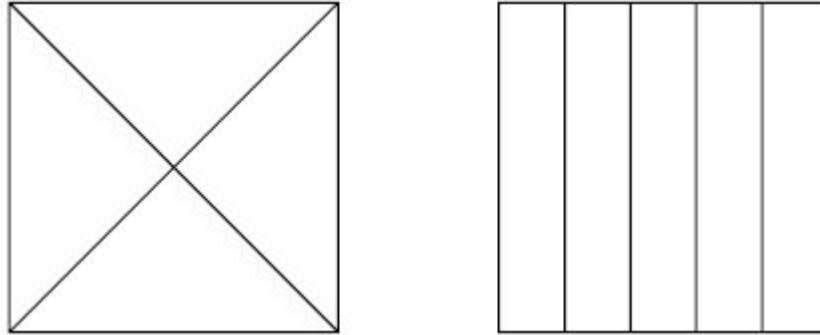She then sells all the remaining cans for 30p each.

Work out the total profit that Shazia makes.
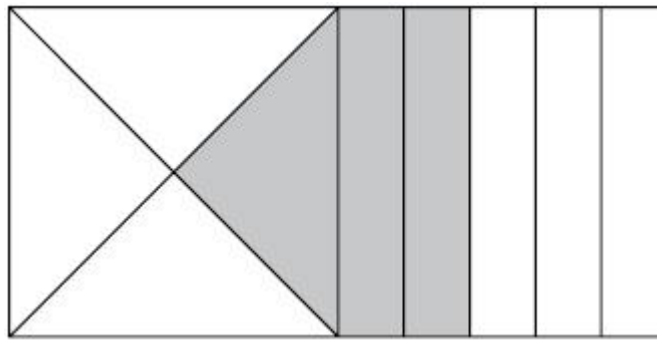
(Total for question = 5 marks)

Q17. Here are two identical squares.

The first square is divided into four equal parts.

The second square is divided into five equal parts.

The two squares are joined together as shown to make a rectangle.

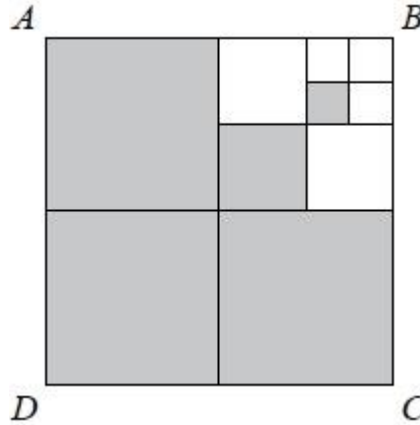What fraction of the rectangle is shaded?

(Total for question = 3 marks)

Q18. (a) Work out the value of

$$\frac{1}{4} + \left(\frac{1}{4} \times \frac{1}{4}\right) + \left(\frac{1}{4} \times \frac{1}{4} \times \frac{1}{4}\right)$$

(2)

ABCD is a square.

This diagram is drawn accurately.

(b) What fraction of the square *ABCD* is shaded?

(2)

Q19. There are 500 passengers on a train.

$\dfrac{7}{20}$ of the passengers are men.

40% of the passengers are women.

The rest of the passengers are children.

Work out the number of children on the train.

....

(Total for question is 3 marks)

Q20. Debbie, Salma and Wendy did a Maths test.
The total for the test was 40 marks.

Debbie got 16 out of 40
Salma got 35% of the 40 marks.

Wendy got $\dfrac{3}{8}$ of the 40 marks.

Who got the highest mark?
You must show all your working.

(Total for Question is 4 marks)

Q21. Jasmine wants to record a film on a DVD.

The film is 95 minutes long.

Jasmine's DVD has $1\frac{1}{2}$ hours of recording time left.

Can Jasmine record all of the film on this DVD?

You must show your working.

(Total for Question is 2 marks)

Q22. John makes clay cups.

He makes 18 cups each hour.

He makes cups for $6\frac{1}{2}$ hours each day, on 5 days of the week.

The cups are packed in boxes.
4 cups are packed into each box.

How many boxes are needed for all the cups John makes in a week?

....

(Total for Question is 4 marks)

Q23. A shop sells milk in 1 pint bottles and in 2 pint bottles.

Each 1 pint bottle of milk costs 52p.
Each 2 pint bottle of milk costs 93p.

Martin has **no** milk.

He assumes that he uses, on average, $\frac{3}{4}$ of a pint of milk each day.

Martin wants to buy enough milk to last for 7 days.

(a) Work out the smallest amount of money Martin needs to spend on milk. You must show all your working.

£.. **(3)**

Martin actually uses more than $\frac{3}{4}$ of a pint of milk each day.

(b) Explain how this might affect the amount of money he needs to spend on milk.

....

....

....

(1)

(Total for question is 4 marks)

Q24. Mr Mason asks 240 Year 11 students what they want to do next year.

15% of the students want to go to college.

$\frac{3}{4}$ of the students want to stay at school.

The rest of the students do not know.

Work out the number of students who do not know.

....

(Total for Question is 4 marks)

Q25. Amelia, Hayden and Sophie did a test.
The total for the test was 75 marks.

Amelia got 56% of the 75 marks.

Hayden got $\frac{8}{15}$ of the 75 marks.

Sophie got 43 out of 75

Who got the highest mark?
You must show all your working.

(Total for question = 3 marks)

Q26. Celina and Zoe both sing in a band.

One evening the band plays for 80 minutes.
Celina sings for 65% of the 80 minutes.

Zoe sings for $\frac{5}{8}$ of the 80 minutes.

Celina sings for more minutes than Zoe sings.

Work out for how many more minutes.
You must show all your working.

.... minutes

(Total for question = 4 marks)

Q27. There are 6760 people at at a rugby match.

3879 of the people are men.
1241 of the people are women.

$\frac{1}{4}$ of the children are girls.

Work out how many boys are at the rugby match.

....

(Total for question = 3 marks)

Q28. There are 240 counters in a bag.
The counters are green or yellow or blue.

$\frac{3}{5}$ of the counters are green.

$\frac{1}{4}$ of the counters are yellow.

Work out the number of blue counters in the bag.

....

(Total for Question is 3 marks)