

Number 1

Calculator allowed for questions 20 to 25

MATHSWATCH

Foundation



Qu 1 to 19

Higher



Qu 20 to 25

Time: 45 minutes

Name: _____

	Grade	Title of clip	Marks	Score	Percentage
Clip 44	D	Factors, multiples, primes (qu. 1)	9	_____	_____
Clip 45	D	Evaluate powers (qu. 2)	3	_____	_____
Clip 46	D	Squares, cubes, roots (qu. 3)	8	_____	_____
Clip 47	D	Equivalent fractions (qu. 4, 5)	4	_____	_____
Clip 48	D	Simplify fractions (qu. 6)	4	_____	_____
Clip 49	D	Order fractions (qu. 7)	3	_____	_____
Clip 52	D	Find % without calculator (qu. 8)	6	_____	_____
Clip 54	D	Change to %, no calculator (qu. 9)	4	_____	_____
Clip 55	D	Find fraction of amount (qu. 10)	4	_____	_____
Clip 56	D	Add and subtract fractions (qu. 11)	6	_____	_____
Clip 57	D	Multiply and divide fractions (qu. 12)	6	_____	_____
Clip 58	D	Change fraction to decimal (qu. 13)	2	_____	_____
Clip 59	D	BODMAS (qu. 14, 15)	7	_____	_____
Clip 60	D	Decimal multiplication (qu. 16)	5	_____	_____
Clip 61	D	Ratio (qu. 17, 18, 19)	4	_____	_____
Clip 50	D	Value for money (qu. 20)	3	_____	_____
Clip 51	D	Find % with calculator (qu.21)	6	_____	_____
Clip 53	D	Change to % with calculator (qu. 22)	4	_____	_____
Clip 63	D	Hard calculator questions (qu. 23)	4	_____	_____
Clip 62	D	Ratio - recipe questions (qu. 24)	5	_____	_____
Clip 64	D	Real-life number questions (qu. 25)	3	_____	_____

Out of 100

TOTAL
SCORE _____

FINAL
PERCENTAGE

%

1) a) Write down all the factors of 10
_____ 2

b) Write down the first four multiples of 5
_____ 2

c) Write down the first five prime numbers
_____ 2

d) 3, 5, 6, 7, 8, 10, 15, 17, 20
From the numbers above write down
(i) A prime number bigger than 7 _____ 1
(ii) Five factors of 30 _____ 1
(iii) Three multiples of 3 _____ 1

2) a) Evaluate 2^4 _____ 1
b) Which is bigger and by how much? 2^5 or 5^2
_____ is bigger by _____ 2

3) a) What is the square of 7? _____ 1
b) What is the cube of 5? _____ 1
c) What is the positive square root of 64? _____ 1
d) What is the cube root of 1000? _____ 1
e) 20, 25, 27, 30, 40, 600, 900
From these numbers find
(i) Two square numbers _____, _____ 1 1
(ii) A cube number _____ 1
(iii) The square root of 400 _____ 1

4) Write the correct numbers in the boxes.
a) $\frac{2}{3} = \frac{\square}{6}$ 1 b) $\frac{3}{7} = \frac{9}{\square}$ 1

5) Which of the following fractions are equivalent to $\frac{2}{5}$?
 $\frac{7}{10}$ $\frac{8}{20}$ $\frac{4}{10}$ $\frac{3}{6}$ $\frac{20}{50}$ $\frac{21}{51}$
_____ 2

6) Cancel the following fractions to their simplest form
a) $\frac{6}{8}$ _____ 2 b) $\frac{24}{60}$ _____ 2

7) Put the following fractions in order of size, smallest to largest.
 $\frac{11}{12}$ $\frac{1}{2}$ $\frac{2}{3}$ $\frac{3}{4}$ $\frac{1}{6}$
_____ 3

8) a) Find 10% of £86 _____ 2
b) Find 35% of £800 _____ 2
c) Find 17.5% of £120 _____ 2

9) a) In a class of 25 students, 14 are girls and 11 are boys.
What percentage of the class are girls? _____ 2
b) Find 12 as a percentage of 40. _____ 2

10) a) Find $\frac{3}{5}$ of 60 _____ 2

b) Find $\frac{2}{3}$ of 3000 _____ 2

11) Work out the following:

a) $\frac{1}{4} + \frac{1}{2}$ _____ 2

b) $\frac{2}{3} - \frac{1}{5}$ _____ 2

c) $1\frac{2}{5} + 3\frac{1}{2}$ _____ 2

12) Work out the following:

a) $\frac{2}{3} \times \frac{4}{5}$ _____ 2

b) $\frac{2}{9} \div \frac{2}{3}$ _____ 2

c) $2\frac{4}{5} \times 1\frac{3}{7}$ _____ 2

13) Change the following fractions to decimals:

a) $\frac{1}{2}$ _____ 1

b) $\frac{4}{5}$ _____ 1

14) Work out the answers to:

a) $4 + 5 \times 3 =$ _____ 2

b) $3^2 + 2^2 =$ _____ 2

c) $\frac{7+3}{5} =$ _____ 2

15) Put brackets in the following to make the sum correct

$2 + 3 \times 5 = 25$ 1

16) a) A book costs £4.25.
How much would 13 of them cost?

£ _____ 3

b) What is 2.1×0.6 ?

_____ 2

17) If the ratio of boys to girls in a class is 3 : 5, what fraction of the class are boys?

_____ 1

18) Write the ratio 6 : 8 in its simplest form.

_____ 1

19) A model car is built to a scale of 1 : 10
If the length of the model is 43cm what is the length of the real car in metres?

_____ 2

This is the end of the non-calculator part of the assessment.

For the rest of the questions a calculator can be used.

20) Which is the best value for money?

150g of chocolate for £2.55

or 125g of the same chocolate for £2.00

All working must be shown.

Best value is _____ 3

21) a) Find 13% of £2000 £ _____ 2

b) Find 26.7% of £89 to the nearest penny £ _____ 2

c) The price of a pair of trainers is £60 + VAT at 17.5%
What is the total price of the trainers? £ _____ 2

22) a) Change 16 out of 45 to a percentage.
Give your answer to 1 decimal place _____ 2

b) In a town of 138000 people, 61500 are female.
What percentage are female?
Give your answer to 1 decimal place _____ 2

23) Find the value of the following. Write down all the numbers on your calculator.

a) $\sqrt{182.25} + 1.75^2$ _____ 2

b) $\frac{5.8^2 - 1.3}{\sqrt{7.6 + 1.4}}$ _____ 2

24) This is a list of ingredients to make rhubarb crumble.

For 6 people

120g of plain flour

24g of almonds

150g of sugar

90g of butter

12 sticks of rhubarb

Work out the amount of ingredients needed for 4 people.

_____ g of plain flour ¹

_____ g of almonds ¹

_____ g of sugar ¹

_____ g of butter ¹

_____ sticks of rhubarb ¹

25) The cost of 1.5kg of apples is £0.84

The total cost of 3kg of apples and 2kg of pears is £2.44

Work out the cost of 1kg of pears.

1kg of pears is _____ 3

- 1) Work out
- (i) 35% of £60. _____ 1
- (ii) 17.5% of £80. _____ 1
- 2) a) Sarah scored 13 marks out of a possible 20 marks in a science homework.
What was her score as a percentage? _____ 1
- b) In an English test, Sarah got 24 out of 40 marks.
Change this score to a percentage. _____ 2
- 3) There are 800 students at Medway School.
55% of these students are girls.
- a) Work out 55% of 800. _____ 1
- There are 176 students in Year 10.
- b) Work out 176 out of 800 as a percentage. _____ 2
- 4) A spade costs £20 plus 15% VAT.
Calculate the total cost of the spade. _____ 2
- 5) Increase £680 by 10%. _____ 2
- 6) Write 120 as the product of its prime factors. _____ 2
- 7) a) Find the HCF of 40 and 90. _____ 2
- b) Find the LCM of 40 and 90. _____ 2
- 8) a) Write 271 000 000 in standard form. _____ 1
- b) Write 3.8×10^5 as a normal number. _____ 1
- c) Write 0.00073 in standard form. _____ 1
- d) Write 2.9×10^{-6} as a normal number. _____ 1
- 9) Work out the value of $(7 \times 10^4) \times (3 \times 10^5)$.
Give your answer in standard form. _____ 2
- 10) Write the recurring decimal $0.\dot{8}\dot{1}$ as an exact fraction in its simplest form. _____ 2
- 11) Work out the answer to
- (i) -6×-4 _____ 1
- (ii) $-12 \div 3$ _____ 1
- (iii) $18 \div -2$ _____ 1
- (iv) -8×3 _____ 1
- (v) $-20 \div -5$ _____ 1

12) Work out the answer to

(i) $7 \div 0.2$

_____ 1

(ii) $60 \div 0.25$

_____ 1

13) James has £15 to spend on CD holders.

What is the greatest amount he can buy if each CD holder costs 25p?

_____ 2

14) Estimate the value of 73×48

_____ 1

15) Estimate the value of

(i) $\frac{22 \times 3.84}{0.207}$

_____ 2

(ii) $\frac{6.79 \times 412}{0.523}$

_____ 2

16) Work out the following, giving all answers in their simplest form:

a) $\frac{1}{3} + \frac{3}{5}$

_____ 2

b) $3\frac{3}{4} + \frac{3}{5}$

_____ 2

c) $3\frac{2}{5} - 1\frac{3}{4}$

_____ 2

d) $2\frac{1}{2} \times 3\frac{3}{4}$

_____ 2

17) Some students watch just one of three TV soaps.

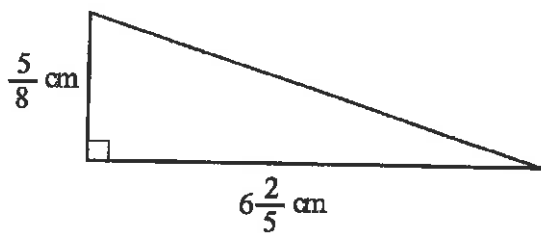
$\frac{1}{5}$ watch Hollyoaks.

$\frac{3}{8}$ watch Eastenders.

What fraction of the students watch Coronation st.?

_____ 2

18) Work out the area of this triangle.



_____ 2

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