# Number 1H Assessment

## Higher Level

 1 - 38  39 - 44

| Clip | Grade | Title of clip | Question(s) | Marked out of | Score | % |
|---|---|---|---|---|---|---|
| 29 | 2 | Introduction to Powers/Indices | 1 | 3 | ___ | ___ |
| 32 | 2 | Rounding to Decimal Places | 42 | 2 | ___ | ___ |
| 66 | 3 | Multiplying Decimals | 2 - 4 | 8 | ___ | ___ |
| 67 | 3 | Dividing Decimals | 5 - 6 | 6 | ___ | ___ |
| 68 | 3 | Four Rules of Negatives | 7 - 8 | 8 | ___ | ___ |
| 70 | 3 | Comparing Fractions | 9 | 2 | ___ | ___ |
| 71 | 3 | Adding and Subtracting Fractions | 10 - 11 | 4 | ___ | ___ |
| 72 | 3 | Finding a Fraction of an Amount | 12 | 1 | ___ | ___ |
| 73 | 3 | Multiplying Fractions | 13 - 14 | 3 | ___ | ___ |
| 74 | 3 | Dividing Fractions | 15 | 2 | ___ | ___ |
| 75 | 3 | BODMAS/BIDMAS | 16 | 4 | ___ | ___ |
| 76 | 3 | Reciprocals | 17 | 2 | ___ | ___ |
| 77 | 3 | Calculator Questions | 39 - 40 | 4 | ___ | ___ |
| 78 | 3 | Product of Primes | 18 | 2 | ___ | ___ |
| 79 | 3 | Highest Common Factor (HCF) | 19 | 2 | ___ | ___ |
| 80 | 3 | Lowest Common Multiple (LCM) | 20 - 21 | 4 | ___ | ___ |
| 81 | 3 | Squares, Cubes and Roots | 22 | 1 | ___ | ___ |
| 82 | 3 | Working with Indices | 23 | 1 | ___ | ___ |
| 83 | 3 | Standard Form | 24 - 26 | 10 | ___ | ___ |
| 84 | 3 | Decimals and Fractions | 27 - 28 | 3 | ___ | ___ |
| 85 | 3 | Fractions, Percentages, Decimals | 29 | 2 | ___ | ___ |
| 86 | 3 | Percentage of an Amount (Calc.) | 41 | 2 | ___ | ___ |
| 87 | 3 | Percentage of an Amount (Non-Calc.) | 30 | 2 | ___ | ___ |
| 88 | 3 | Change to a Percentage (Calc.) | 43 | 2 | ___ | ___ |
| 89 | 3 | Change to a Percentage (Non-Calc.) | 31 | 2 | ___ | ___ |
| 90 | 3 | Rounding to Significant Figures | 32 - 33 | 3 | ___ | ___ |
| 91 | 3 | Estimating Answers | 34 | 2 | ___ | ___ |
| 92 | 3 | Using Place Value | 35 | 3 | ___ | ___ |
| 131 | 4 | Index Notation | 36 - 37 | 6 | ___ | ___ |
| 132 | 4 | Introduction to Bounds | 38, 44 | 4 | ___ | ___ |

*Out of 100* TOTAL SCORE _____

Final Percentage [ ] %

1) a) Write $3 \times 3 \times 3 \times 3$ using index notation: _____ **1**

b) Express $2^5 \times 2^3$ as a single power of 2 _____ **1**

c) Express $4^7 \div 4^2$ as a single power of 4 _____ **1**

2) Work out the answers to

a) $0.3 \times 0.4$ _____ **1**

b) $0.4 \times 0.2$ _____ **1**

3) Work out the answers to the following, showing your working

a) $2.7 \times 4.1$ _____ **2**

b) $12.3 \times 0.36$ _____ **2**

4) Tom has a job that pays £9.32 per hour.
He worked for 40 hours last week.

How much did he earn? _____ **2**

5) Work out

a) $12 \div 0.3$ _____ **2**

b) $51.36 \div 1.6$ _____ **2**

6) If a textbook costs £7.80, how many can be bought for £101.40?

_____ books can be bought. **2**

7) Work out

a) $5 - 8 =$ _____ **1**

b) $-7 - 3 =$ _____ **1**

c) $4 + (-12) =$ _____ **1**

d) $(-9) - (-3) =$ _____ **1**

8) Work out

a) $5 \times (-3) =$ _____ **1**

b) $(-7) \times (-2) =$ _____ **1**

c) $(-86) \div (-2) =$ _____ **1**

d) $(-36) \div 12 =$ _____ **1**

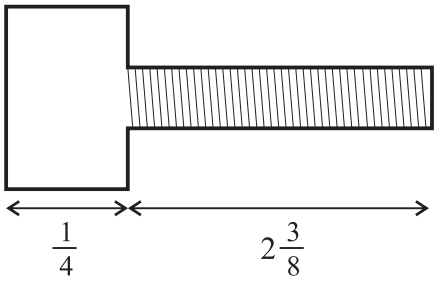
9) Put the following fractions in order of size, smallest to largest.

$\frac{2}{3}$ $\frac{1}{2}$ $\frac{1}{4}$ $\frac{5}{8}$ $\frac{13}{12}$

_____ **2**

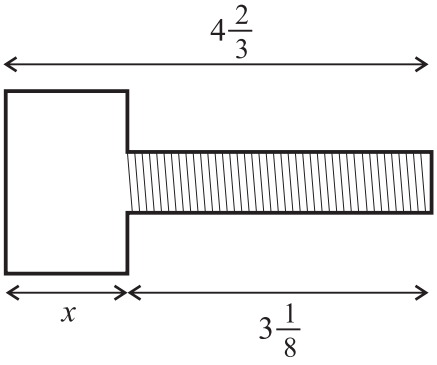
10) The bolt has given lengths measured in inches.

What is the total length of the bolt? _____ inches. **2**




11) The bolt has given lengths measured in inches.

What is the length ($x$) of the head of the bolt? _____ inches. **2**




12) Work out $\frac{4}{5}$ of 150 _____ **1**

13) Work out $\frac{4}{9} \times \frac{27}{36}$ _____ **1**

14) A water container is $\frac{1}{8}$ full.
35 litres of water are poured into the container.
The container is now $\frac{3}{4}$ full.

When the container is full, how much water does it hold? _____ **2**

15) Calculate

a) $\frac{2}{3} \div \frac{3}{4}$ _____ **1**

b) $2\frac{4}{5} \div \frac{2}{3}$ _____ **1**

16) Work out

a) $2 + 3 \times 4 =$ _____ **1**

b) $5 \times 6 + 3 \times 2 =$ _____ **1**

c) $3 \times 4^2 =$ _____ **1**

d) $5 \times (6 + 3) \times 2 =$ _____ **1**

17) a) Find the reciprocal of 7 _____ **1**

b) Find the reciprocal of $\frac{4}{5}$ _____ **1**

18) Express 2100 as the product of its prime factors. _____ **2**

19) Find the highest common factor of 40 and 72. _____ **2**

20) Find the lowest common multiple of 12 and 15. _____ **2**

21) The first buses to Y and Z leave a bus station at 7 am.
Buses to Y leave every 25 minutes.
Buses to Z leave every 20 minutes.

When will buses to Y and Z next leave at the same time? _____ **2**

22) Work out the value of $5^2 + \sqrt[3]{27}$ _____ **1**

23) Work out the value of $2^3 + 3^4 + 10^5$ _____ **1**

24) Write the following in standard form

a) 471000000 _____ **2**

b) 0.0000083 _____ **2**

25) Write the following as normal numbers

a) $7.6 \times 10^5$ _____ **2**

b) $2.3 \times 10^{-4}$ _____ **2**

26) Work out $(1.8 \times 10^5) \div (9 \times 10^2)$

Give your answer in standard form. _____ **2**

27) Change 0.64 to a fraction, giving your answer in its simplest form. _____ **1**

28) Change $\frac{5}{8}$ to a decimal. _____ **2**

29) Write these numbers in order of size, smallest to largest. 52% $\frac{4}{5}$ 0.47 $\frac{4}{10}$ 60%

_____ **2**

30) Find 35% of £80 _____ **2**

31) Mandy scored 30 out of 80 in a test.

What was her score as a percentage? _____ **2**

32) $236 \times 148 = 34\,928$

a) Round this answer to 2 significant figures. _____ **1**

b) Round this answer to 1 significant figure. _____ **1**

33) $64 \div 238 = 0.268907563\ldots$

Round this answer to 2 significant figures. _____ **1**

34) Estimate the answer to $\dfrac{774 \times 219}{384}$

_____ **2**

35) Using the information that $6.8 \times 24 = 163.2$, write down the value of

a) $680 \times 24$ _____ **1**

b) $68 \times 0.24$ _____ **1**

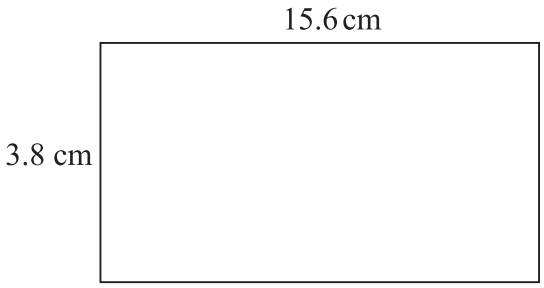
c) $16.32 \div 68$ _____ **1**

36) Simplify the following, leaving your answers in index form.

a) $3^4 \times 3^5 \times 3 =$ _____ **1** b) $\dfrac{5^7 \times 5^2}{5 \times 5^4} =$ _____ **2** c) $(2^4)^3 =$ _____ **2**

37) What is the value of $8^0$? _____ **1**

38) The length of a rectangle is 15.6 cm correct to 1 decimal place.
The width of a rectangle is 3.8 cm correct to 1 decimal place.




Calculate the lower bound for the perimeter of the rectangle. _____ **2**

*A*  ***can be used for all questions on this page.***

39) Work out $\dfrac{\sqrt{3.7^2 + 19.6}}{1.3^3 - 0.7}$ giving your answer to 3 significant figures. _____ **2**

40) Work out $\sqrt{\dfrac{20 - 1.3^2}{8.9}}$ giving your answer to 3 significant figures. _____ **2**

41) Work out 72% of £483 _____ **2**

42) Use a calculator to work out the answer to 23 ÷ 17.

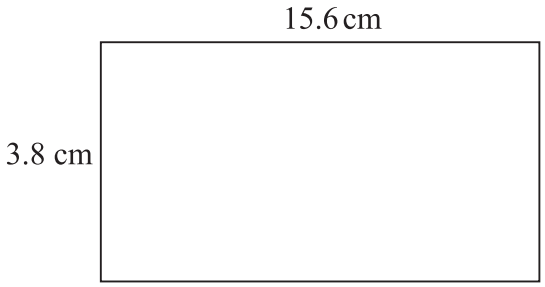
a) Give your answer to 1 decimal place: _____ **1**

b) Give your answer to 2 decimal places: _____ **1**

43) Change 46 out of 73 to a percentage.

Give your answer correct to 1 decimal place. _____ **2**

44) The length of a rectangle is 15.6 cm correct to 1 decimal place.
The width of a rectangle is 3.8 cm correct to 1 decimal place.




Calculate the upper bound for the area of the rectangle. _____ **2**