

# Number 1H Assessment

# THE ANSWERS

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: 3<sup>4</sup> 1

b) Express  $2^5 \times 2^3$  as a single power of 2 2<sup>8</sup> 1

c) Express  $4^7 \div 4^2$  as a single power of 4 4<sup>5</sup> 1

2) Work out the answers to

a)  $0.3 \times 0.4$  0.12 1

b)  $0.4 \times 0.2$  0.08 1

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

a)  $2.7 \times 4.1$  11.07 2

b)  $12.3 \times 0.36$  4.428 2

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

How much did he earn? £372.80 2

5) Work out

a)  $12 \div 0.3$  40 2

b)  $51.36 \div 1.6$  32.1 2

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

13 books can be bought. 2

7) Work out

a)  $5 - 8 = \underline{-3}$  1

b)  $-7 - 3 = \underline{-10}$  1

c)  $4 + (-12) = \underline{-8}$  1

d)  $(-9) - (-3) = \underline{-6}$  1

8) Work out

a)  $5 \times (-3) = \underline{-15}$  1

b)  $(-7) \times (-2) = \underline{14}$  1

c)  $(-86) \div (-2) = \underline{43}$  1

d)  $(-36) \div 12 = \underline{-3}$  1

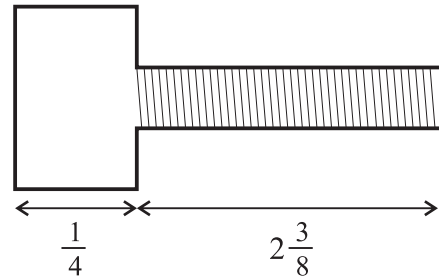
9) Put the following fractions in order of size, smallest to largest.

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

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

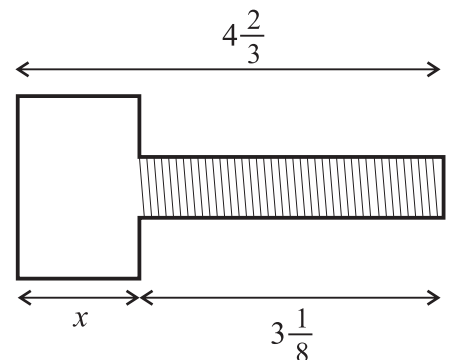
10) The bolt has given lengths measured in inches.

What is the total length of the bolt?  $\underline{2\frac{5}{8}}$  inches. 2



11) The bolt has given lengths measured in inches.

What is the length (x) of the head of the bolt?  $\underline{1\frac{13}{24}}$  inches. 2



12) Work out  $\frac{4}{5}$  of 150  $\underline{120}$  1

13) Work out  $\frac{4}{9} \times \frac{27}{36}$   $\underline{\frac{1}{3}}$  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?  $\underline{56 \text{ litres}}$  2

15) Calculate

a)  $\frac{2}{3} \div \frac{3}{4}$   $\underline{\frac{8}{9}}$  1   b)  $2\frac{4}{5} \div \frac{2}{3}$   $\underline{4\frac{1}{5}}$  1

- 16) Work out
- a)  $2 + 3 \times 4 = \underline{14}$  1      b)  $5 \times 6 + 3 \times 2 = \underline{36}$  1
- c)  $3 \times 4^2 = \underline{48}$  1      d)  $5 \times (6 + 3) \times 2 = \underline{90}$  1
- 17) a) Find the reciprocal of 7  $\underline{\frac{1}{7}}$  1
- b) Find the reciprocal of  $\frac{4}{5}$   $\underline{\frac{5}{4}}$  or  $1\frac{1}{4}$  1
- 18) Express 2100 as the product of its prime factors.  $\underline{2 \times 2 \times 3 \times 5 \times 5 \times 7}$  2
- 19) Find the highest common factor of 40 and 72.  $\underline{8}$  2
- 20) Find the lowest common multiple of 12 and 15.  $\underline{60}$  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?  $\underline{8.40 \text{ am}}$  2
- 22) Work out the value of  $5^2 + \sqrt[3]{27}$   $\underline{28}$  1
- 23) Work out the value of  $2^3 + 3^4 + 10^5$   $\underline{100089}$  1
- 24) Write the following in standard form
- a) 471000000  $\underline{4.71 \times 10^8}$  2
- b) 0.0000083  $\underline{8.3 \times 10^{-6}}$  2
- 25) Write the following as normal numbers
- a)  $7.6 \times 10^5$   $\underline{760000}$  2
- b)  $2.3 \times 10^{-4}$   $\underline{0.00023}$  2
- 26) Work out  $(1.8 \times 10^5) \div (9 \times 10^2)$   
Give your answer in standard form.  $\underline{2 \times 10^2}$  2
- 27) Change 0.64 to a fraction, giving your answer in its simplest form.  $\underline{\frac{16}{25}}$  1
- 28) Change  $\frac{5}{8}$  to a decimal.  $\underline{0.625}$  2
- 29) Write these numbers in order of size, smallest to largest. 52%  $\frac{4}{5}$  0.47  $\frac{4}{10}$  60%
- $\underline{\frac{4}{10} \quad 0.47 \quad 52\% \quad 60\% \quad \frac{4}{5}}$  2

30) Find 35% of £80 £28 2

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

What was her score as a percentage? 37.5% 2

32)  $236 \times 148 = 34928$

a) Round this answer to 2 significant figures. 35000 1

b) Round this answer to 1 significant figure. 30000 1

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

Round this answer to 2 significant figures. 0.27 1

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

400 2

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

a)  $680 \times 24$  16320 1

b)  $68 \times 0.24$  16.32 1

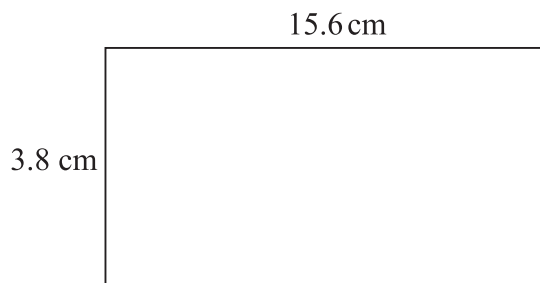
c)  $16.32 \div 68$  0.24 1

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

a)  $3^4 \times 3^5 \times 3 = 3^{10}$  1    b)  $\frac{5^7 \times 5^2}{5 \times 5^4} = 5^4$  2    c)  $(2^4)^3 = 2^{12}$  2

37) What is the value of  $8^0$ ? 1 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. 38.6 cm 2

A  can be used for all questions on this page.

39) Work out  $\frac{\sqrt{3.7^2 + 19.6}}{1.3^3 - 0.7}$  giving your answer to 3 significant figures. 3.85 2

40) Work out  $\sqrt{\frac{20 - 1.3^2}{8.9}}$  giving your answer to 3 significant figures. 1.43 2

41) Work out 72% of £483 £347.76 2

42) Use a calculator to work out the answer to  $23 \div 17$ .

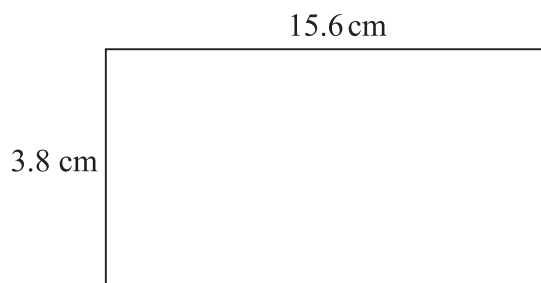
a) Give your answer to 1 decimal place: 1.4 1

b) Give your answer to 2 decimal places: 1.35 1

43) Change 46 out of 73 to a percentage.

Give your answer correct to 1 decimal place. 63.0% 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. 60.2525 cm<sup>2</sup> 2