Multiple-choice section

Question 1 [1.1]

Which one of the following has the same value as 13 × 2?

A 10 × 3 + 2 B 10 × 2 + 3 × 2 C 10 × 2 + 3 D 10 × 3 × 2

Question 2 [1.2]

Another way of writing is:

A  B 3 × 3 × 3 × 3 × 3 C 3 × 5 D 5 × 5 × 5

Question 3 [1.2]

Four cubed is equal to:

A 4 × 4 B 64 C 12 D 

Question 4 [1.3]

A group of Year 7 students are planning to run a car wash to raise funds for a local charity. They are hoping to raise $1000. If they will raise $20 for each car they wash how many cars will they need to wash to each their fundraising goal.

A 20 B 5 C 2000 D 50

Question 5 [1.3]

40 × 50 =

A 20 B 200 C 2000 D 20 000

Question 6 [1.4]

Jack plans to buy a shirt for $52, a tie for $21 and trousers for $68. If he rounds each price to the nearest $10 and then finds the total estimated cost. His estimate will be:

A $110 B $120 C $130 D $140

Question 7 [1.4]

The answer to 216 ÷ 9 would be closest to:

A 10 B 20 C 30 D 40

Question 8 [1.5]

9 + 5 – 6 ÷ 2 =

A 4 B 8 C 11 D 13

Question 9 [1.5]

The answer to 10 + 42 ÷ (2 + 6) is:

A 10 B 12 C 14 D 16

Question 10 [1.6]

Tiffany received $20 for Christmas, her older brother Jack received double that amount and her younger brother Tom received half of Tiffany’s amount. How much more did Jack get than Peter?

A $30 B $20 C $10 D $5

Multiple-choice total marks: \_\_\_\_ / 10

Short answer section

Question 11 4 marks [1.1, 1.2]

Use words from the list below to complete the following sentences.

*product quotient index base square estimate cube indices*

(a) The \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the result of a multiplication calculation.

(b) 25 is a perfect \_\_\_\_\_\_\_\_\_\_.

(c) 4 × 4 × 4 can be written in \_\_\_\_\_\_\_ form as 43 and 4 is called the \_\_\_\_\_\_.

Question 12 4 marks [1.1, 1.2]

Write 73 in expanded form, then find its value without using a calculator. Make clear the strategies you are using by showing all your working.

Question 13 2 marks [1.1]

Calculate the following: 2 × 17 × 5

Question 14 3 marks [1.1]

Below is Jonathon’s working for a calculation from his maths test. He was asked to find the answer to  
16 × 7 but he made a mistake.

(a) Circle the line of working where the error appears.

(b) Write the correct working for the question in the space next to Jonathon’s working.

Jonathon’s working Correct working

16 × 7

= 1 × 7 + 6 × 7

= 7 + 42

= 49

(c) Briefly explain where Jonathon went wrong in the calculation.

Question 15 3 marks [1.1]

Show how to use the ‘make easy numbers’ strategy to find 36 + 23 + 44 by filling the gaps in the working below:

36 + 23 + 44

= 36 + \_\_\_\_\_\_\_+ 23

= \_\_\_\_\_\_\_\_\_ + 23

= \_\_\_\_\_\_\_\_\_\_

Question 16 2 marks [1.1]

Show how to use the distributive law strategy to find 32 × 4 by filling the gaps in the working below:

32 × 4

= (\_\_\_\_\_\_+ 2) × 4

= \_\_\_\_\_\_\_ × 4 + 2 × 4

= \_\_\_\_\_\_\_\_ + 8

= \_\_\_\_\_\_\_\_\_

Question 17 3 marks [1.2, 1.3]

Write 3004 in expanded form and then calculate the answer using a suitable strategy for multiplying by multiples of ten.

Question 18 1 mark [1.2]

Write 4 × 4 × 4 × 4 × 4 in index form.

Question 19 1 mark [1.2]

Evaluate.

Question 20 3 marks [1.1, 1.3]

Show how to calculate 51 × 14 using firstly the ‘work in stages’ strategy, and secondly the distributive law strategy by filling in the gaps in this working:

51 × 14

= 51 × \_\_\_\_\_\_\_ × 7

= \_\_\_\_\_\_\_ × 7

= 7 × (100 + \_\_\_\_\_\_\_\_)

= 7 × \_\_\_\_\_\_\_\_ + 7 × \_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_

Question 21 1 mark [1.4]

Round 9320 to the first digit.

Question 22 2 marks [1.4]

Estimate 62 × 31 by rounding to the first digit.

Question 23 2 marks [1.5]

Evaluate 15 + 40 ÷ 5.

Question 24 2 marks [1.5]

Insert brackets to make 8 ÷ 4 + 4 × 3 = 3 into a true statement.

Short answer total:\_\_\_\_\_\_\_\_\_/33

Extended answer section

Question 25 6 marks [1.1, 1.3, 1.6]

Steven plans to buy 3 pairs of shorts at $47 each, 13 ties at $13 each and 8 shirts priced at $31.

Using appropriate strategies, calculate the amount Steven will spend altogether.

Question 26 5 marks [1.2, 1.3, 1.4]

There are 262 × 104 possible car registration plates available with 2 letters followed by 4 digits.

(a) Estimate how many such registration plates are available.

(b) Do you expect that your estimate an over estimate or an underestimate? Explain why you think this.

(c) Calculate exactly how many such registration plates are available.

Extended answer total:\_\_\_\_\_\_\_\_\_/11

TOTAL test marks: \_\_\_\_ / 54