Multiple-choice section

Question 1 [1.1]

Which one of the following has the same value as 18 × 6?

A 10 × 8 + 6 B 10 × 6 + 8 × 6 C 10 × 6 + 8 D 10 × 8 × 6

Question 2 [1.2]

Another way of writing 35 is:

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

Question 3 [1.2]

The cube root of 27 is:

A 1 B 2 C 3 D 4

Question 4 [1.3]

The total cost for a class of 30 Year 7 students to watch a movie with a small popcorn each is $360. How much should the teacher charge each student?

A $10 B $12 C $12.50 D $13

Question 5 [1.3]

Which of the following is an incorrect method for calculating 480 ÷ 8?

A Calculate 4 ÷ 8, 8 ÷ 8 and 0 ÷ 8, then add the results together.

B Halve 480, then halve the answer, then halve the answer again.

C Calculate 400 ÷ 8 and 80 ÷ 8, then add the quotients.

D Calculate 48 ÷ 8, then multiply by 10.

Question 6 [1.4]

Estimate the total cost of these items: shirt $48; tie $21; trousers $64

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

Question 7 [1.4]

The answer to 108 × 21 would be closest to:

A 1000 B 2000 C 3000 D 4000

Question 8 [1.5]

Which symbol would replace \* to make the following statement true?

5 + 27 \* 3 = 14

A + B – C × D ÷

Question 9 [1.5]

The answer to 10 + 62 ÷ (7 + 5) is:

A 11 B 13 C 15 D 17

Question 10 [1.6]

Tara received $32 for Christmas, her older brother received double that amount and her younger brother received half of Tara’s amount. What is the difference between the amounts of money her two brothers received?

A $26 B $46 C $48 D $20

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

Short answer section

Question 11 3 marks [1.2, 1.3]

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

*product quotient index form base expanded form estimate divisor*

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

(b) In index notation, the index tells us how many times the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will appear when written in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Question 12 2 marks [1.1]

Explain what is meant by the term ‘commutative law’. Use an example to help you explain.

Question 13 2 marks [1.1]

Calculate 2 × 24 × 5.

Question 14 3 marks [1.3]

Below is Jonathon’s working for a calculation from his maths test. He was asked to find the answer to 16 × 22 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 × 22

= 16 × 2 + 16 × 2

= 32 + 32

= 64

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

Question 15 2 marks [1.1]

Use an appropriate mental strategy to find the value of 116 + 28 + 24.

Question 16 2 marks [1.1]

Use an appropriate strategy to find the value of 312 × 4.

Question 17 4 marks [1.2]

Write each of the following in expanded form, then evaluate.

(a) 26 (b) 104

Question 18 2 marks [1.2]

Write each of the following in index form.

(a) 4 × 4 × 4 × 4 × 4 (b) 80 × 80 × 80

Question 19 2 marks [1.2]

Evaluate: 23 – 

Question 20 2 marks [1.3]

Calculate 270 ÷ 6 using the ‘work in stages’ strategy.

Question 21 3 marks [1.3]

Calculate 21 × 87 using an ‘array’ strategy.

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Question 22 2 marks [1.3]

Calculate: 28 000 ÷ 400

Question 23 1 mark [1.4]

Round 7520 to the first digit.

Question 24 4 marks [1.4]

Estimate the following by rounding to the first digit.

(a) 62 × 31 (b) 8565 ÷ 53

Question 25 4 marks [1.5]

Evaluate the following.

(a) 8 × (9 – 5) ÷ 2 (b) 28 + 16 ÷ 2 – 6

Question 26 2 marks [1.5]

Insert brackets to make the following statements true.

(a) 8 + 10 ÷ 2 + 4 = 3 (b) 37 + 8 ÷ 10 – 6 = 39

Short answer total:\_\_\_\_\_\_\_\_\_/40

Extended answer section

Question 27 4 marks [1.3, 1.4, 1.6]

There were 32 463 spectators at the recent Western Derby football match. On average, it costs $44 to attend a game.

(a) Round the number of spectators to the first digit.

(b) Use your rounded answer from part (a) to estimate the total revenue received from the game. (Revenue = money received)

Question 28 6 marks [1.1, 1.4, 1.6]

Below are the call rates for a new phone company:

Peak time: 35 cents connection fee and 90 cents per minute.

Off-peak time: no connection fee and 65 cents per minute.

Benjamin makes three calls.

* The first call lasted 1 minute and was made during peak time.
* The second call lasted 4 minutes and was also made during peak time.
* The third call lasted 10 minutes but was made during the cheaper off-peak time.

(a) Calculate the total cost of the calls in cents.

(b) Benjamin has 1500 cents credit on his phone. Using the symbols +, – , ÷ , × and at least one pair of brackets, write down a calculation that Benjamin could use to determine how much credit remained on his phone after the three calls.?

Extended answer total:\_\_\_\_\_\_\_\_\_/10

TOTAL test marks: \_\_\_\_ / 60