ACG PARNELL COLLEGE
ACADEMIC COLLEGES GROUP

Year 7 Mathematics 2011

Whole Number Test

Total marks: 73 **Name** Answers

Show your working for any question worth more than one mark.

1. Using only the digits in the box provided create the following numbers:

1	5	7	4	2

(a) A two digit composite number — Any 2-digit composite [1]

(b) A two digit prime number — 17, 71, 41, 47 [1]

(c) A factor of 16 — 4, 2, 1 [1]

(d) A multiple of 3 — 15, 12, 27 [1]

(e) A square number — 4, 25 [1]

(f) The largest 3-digit number — 754 [1]

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2. Answer the questions below about the number

4892

(a) Round to the nearest hundred — 4900 [1]

(b) Write the number out in words — Four thousand, eight hundred and ninety two [1]

(c) What is the place value of the 9? — tens / 10's [1]

(d) What is the value of the 8? — 800 / eight hundred [1]

(e) Write the number in expanded form — $4 \times 1000 + 8 \times 100 + 9 \times 10 + 2(\times 1)$ ↑ not required [1]

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3. Put the following numbers in **descending** order

23, 20, 203, 223, 220

Answer (3) — 223, 220, 203, 23, 20 [1]

4. Write in compact form

(a) $5 \times 1000 + 2 \times 100 + 3 \times 10$ 5230 [1]

(b) $9 \times 10{,}000 + 4 \times 100 + 1 \times 1$ 90401 [1]

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5. Write in expanded form

(a) 5039 5x1000 + 3 x 10 + 9 [1]

(b) 950 9 x 100 + 5x10 [1]

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6. Round the following amounts of money

(a) \$353.30 to the nearest dollar \$353 [1]

(b) \$2.55 to the nearest ten cents \$2.60 [1]

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7. (a) Write down the first **five** multiples of 6 **and** 4:

1 mark if 3 given

Multiples of 6 6, 12, 18, 24, 30 [2]

Multiples of 4 4, 8, 12, 16, 20 [2]

(b) What is the lowest common multiple of 6 and 4?

12 [1]

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8. Stewart's homework was to multiply and divide numbers by 10, 100 or 1000. Unfortunately Stewart spilt coke on his homework; fill in the circles to help him finish his homework.

(a)

$$589 \bigcirc 1000 = 589000$$

[1]

(b)

$$4500 \div \bigcirc = 45$$

[1]

(c)

$$56 \bigcirc \bigcirc = 5600$$

[2]

9. Using one figure approximation to estimate the answers to the following, **show you working.**

(a) $47 + 3 + 147$

50 + 3 + 100 ✓

Answer (9a) ✓ 153 [2]

(b) 59×304

60 x 300 ✓

Answer (9b) ✓ 18 000 [2]

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10. Perform the following calculations **by hand – Show full working**

a) 2910 + 5181

$$\begin{array}{r} {\scriptstyle 1} \\ 5181 \\ +\ 2910 \\ \hline 8091 \end{array}$$ ✓

Answer: 8091 ✓ [2]

b) 1982 –734

$$\begin{array}{r} {\scriptstyle 7\ 1} \\ 1982 \\ -\ 734 \\ \hline 1248 \end{array}$$ ✓

Answer: 1248 ✓ [2]

c) 34 × 4

$$\begin{array}{r} {\scriptstyle 1} \\ 34 \\ \times\ 4 \\ \hline 136 \end{array}$$ ✓

Answer: 136 ✓ [2]

d) 14 × 12

$$\begin{array}{r} 14 \\ \times\ 12 \\ \hline 28 \\ 140 \\ \hline 168 \end{array}$$ ✓

Answer: 168 [2]

e) 6540 ÷ 3

$$3\overline{)6540} = 2180$$ ✓

Answer: ✓ 2180 [2]

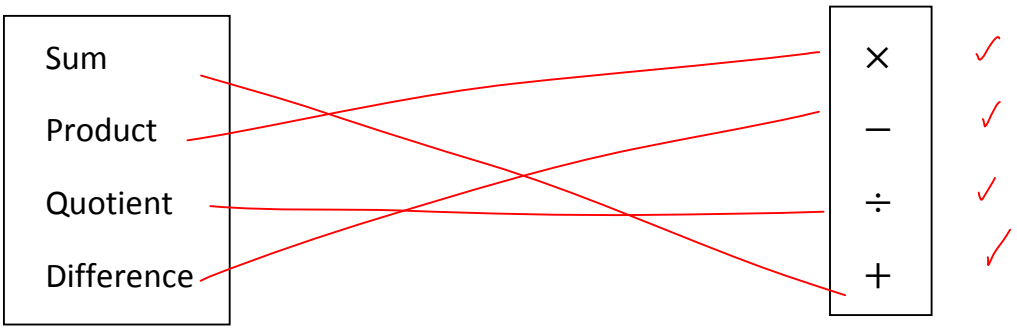
f) 238 ÷ 5

$$5\overline{)238} = 047\ r\ 3$$ ✓

Answer: ✓ 47 r 3 [2]

OR 47.6

11. Join the words on the left with the correct symbol on the right.



✓ ✓ ✓ ✓

[2]

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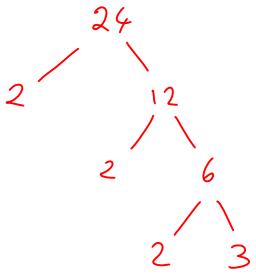
12. Draw a prime factor tree for 24



✓ good attempt

✓✓ all correct

[2]

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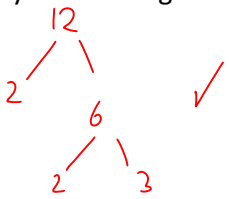
13. Write 12 as a product of its prime factors, show your working.



✓

Answer (13) 2 × 2 × 3 ✓ [2]

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14. Write down two whole numbers whose product is 100, but do not contain the digit 0.

Answer (14) 25, 4 ✓✓ [2]

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15. Choose the correct answer by circling A, B, C or D for each question.

(a) When a 4 digit number is added to another 4 digit number, then the results is . . .

A always a 4 digit number

B always an 8 digit number

C either a 4 digit number or a 5 digit number

D either a 4, 5 or 6 digit number [1]

(b) When the difference between two 4 digit numbers is calculated then the result is . . ,

A either a 1, 2, or 3 digit number

B sometimes a 5 digit number

C always a 4 digit number

D a number with less than 5 digits [1]

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16. Forty rugby fans are planning to support their team at the finals. They worked out that hiring a bus to take them to the big game will cost them $27 each.

(a) What is the total cost of the bus?

$27 x 40 ✓

Answer (15a) 1080 ✓ [2]

(b) On the day of the finals only 30 fans turn up at the bus. The total cost for hiring the bus is still the same. How much does each of the 30 fans have to pay now?

1080 ÷ 30 ✓

Answer (15b) $36 ✓ [2]

(c) The fans buy flags to show support for their team. A dozen flags cost $72, how much do 30 cost?

72 ÷ 12 = 6 ✓

6 x 30 ✓

Answer (15c) 180 ✓ [3]

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17. A three digit number has a 1 placed at the front and the back, making a 5-digit number. The difference between the 5 digit number and the original 3 digit number is 13682. Work out the original 3 digit number.

$$\begin{array}{r} 1\ a\ b\ c\ 1 \\ -\quad a\ b\ c \\ \hline 1\ 3\ 6\ 8\ 2 \end{array}$$

✓ for setting it out.

Answer (17) ✓✓✓ 409 [4]

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18. I am thinking of a number . . .

(a) It is an even number and it is also a prime number

Answer (18a) 2 ✓ [1]

(b) It is a square number, it has 2 digits and the sum of the digits is even.

Answer (18b) 64 ✓ [1]

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19. Fill in the gaps in the following problems

$$\begin{array}{r} 7\ \boxed{2} \\ \times\quad 4 \\ \hline 2\ 8\ 8 \end{array}$$ ✓

$$\begin{array}{r} \boxed{8}\ 2\ 3 \\ \times\qquad \boxed{8} \\ \hline 6\ 5\ 8\ 4 \end{array}$$ ✓ ✓

[3]

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20. In the problem below each letter represents one of the digits from 0 to 9. No two letters can stand for the same digit. A student has already worked out that the letter S stands for the number 2. What sum does this problem represent?

$$\begin{array}{r} B\ A\ B\ Y \\ +\ B\ A\ B\ Y \\ \hline Y\ A\ W\ N\ S \end{array}$$

✓ Any decent working

B = 8 ✓ A = 7 Y = 1 ✓ W = 5 N = 6 ✓

$$\begin{array}{r} 8\ 7\ 8\ 1 \\ 8\ 7\ 8\ 1 \\ \hline 1\ 7\ 5\ 6\ 2 \end{array}$$

[4]
