ACG PARNELL COLLEGE
ACADEMIC COLLEGES GROUP

Year 7 Mathematics 2014

Whole Number Test

Total marks: 76 **Name** Marking Schedule **Class**________
Show your working for any question worth more than one mark.

1. Put the following numbers in **ascending** order

mark for each 2 correct

2001, 1999, 2101, 2011,

Answer (1) 1999, 2001, 2011, 2101 [2]

2. Using only the digits shown below, create the following numbers:

7 8 6 1 5

(a) A two digit composite number — any correct answer [1]

(b) A one digit prime number — 5 or 7 [1]

(c) A factor of 16 — 1 or 8 or 16 [1]

(d) A two-digit prime number — 17 or 61 or 67 or 71 [1]

(e) A square number — 1 or 16 or 81 [1]

(f) The largest 5-digit number — 87651 [1]

3. Answer the questions below about the number

87934

(a) Round to the nearest thousand — 88 000 [1]

(b) Write the number in words — Eight seven thousand, nine hundred and thirty four [1]

(c) What is the place value of the 7? — thousands, 1000s [1]

(d) What is the value of the 9? — 900 [1]

(e) Write the number in expanded form — 8 × 10000 + 7 × 1000 + 9 × 100 + 3 × 10 + 4 [1]

13

4. Write in compact form (as a simple numeral)

(a) $5 \times 10\,000 + 3 \times 1000 + 8 \times 10 + 2$ 53082 [1]

(b) $5 \times 100\,000 + 6 \times 1000 + 3 \times 100$ 506 300 [1]

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5. Write in expanded form

(a) 79 100 $7 \times 10\,000 + 9 \times 1000 + 1 \times 100$ [1]

(b) 473 $4 \times 100 + 7 \times 10 + 3$ [1]

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6. Round the following amounts of money

(a) $7823.40 to the nearest dollar $7823 [1]

(b) $7.85 to the nearest ten cents $7·90 [1]

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7. Use one figure approximation (1 s.f.) to estimate the answers to the following, **show your working.**

(a) $876 \div 3$

$900 \div 3$ ✓

Answer (7a) 300 ✓ [2]

(b) $27 + 520 + 1976$

$30 + 500 + 2000$ ✓

Answer (7b) 2530 ✓ [2]

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8. Bill's dog Bob has chewed his homework. Copy the problems out again and fill in the missing numbers?

[4]

Multiplication	Answer	Addition	Answer
5 X 4 460	✓ ✓ 115 × 4 460	57 +23 688	✓ 457 + 231 ✓ 688

14

−1 each error

9. (a) Write down the first **five** multiples of 6 **and** 9:

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

Multiples of 9 9, 18, 27, 36, 45 [2]

(b) What is the lowest common multiple of 6 and 9?

18 [1]

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

a) 4531 + 872

$$\begin{array}{r} 4531 \\ +\ 872 \\ \hline 5403 \end{array}$$

Answer: 5403 [2]

b) Find the difference of 7865 and 456

$$\begin{array}{r} 78\cancel{6}^{5}\,{}^{1}5 \\ -\ 456 \\ \hline 7409 \end{array}$$

Answer: 7409 [2]

c) 32 × 7

$$\begin{array}{r} 32 \\ \times\ 7 \\ \hline 224 \end{array}$$

Answer: 224 [2]

d) 492 ÷ 3

$$3\overline{)4{}^{1}9{}^{1}2}\quad 164$$

Answer: 164 [2]

e) Find the product of 62 and 43

$$\begin{array}{r} 62 \\ \times\ 43 \\ \hline 186 \\ 2480 \\ \hline 2666 \end{array}$$

Answer: 2666 [3]

f) Find the quotient of 685 and 5

$$5\overline{)6{}^{1}8{}^{3}5}\quad 137$$

13

Answer: 137 [2]

18

11. (a) List the factor pairs for 15

Answer (11a) 1, 15   3, 5 [1]

(b) List the factors of 30

1, 30
2, 15
3, 10
5, 6

all correct

Answer (11b) f(30) = 1, 2, 3, 5, 6, 10, 15, 30 [1]

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12. Write 72 as a product of its prime factors, show your working.

72
2   36
2   18
2   9
3   3

Answer (12) $2 \times 2 \times 2 \times 3 \times 3$ or $2^3 \times 3^2$ [2]

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13. Write down two whole numbers whose sum is 12, and whose product is 32

1 + 11 = 12
2 + 10 = 12
3 + 9 = 12
4 + 8 = 12
5 + 7 = 12
6 + 6 = 12

$4 \times 8 = 32$

Answer (13) 4, 8 [2]

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14. Circle the correct answer, True or False.

(a) Multiplying by zero always results in zero   T   F   [1]

(b) Odd numbers are not divisible by two   T   F   [1]

(c) 817 is divisible by 3   T   F   [1]

(d) All composite numbers can be written as a product of their prime factors

T   F   [1]

(e) The sum of four and five is twenty   T   F   [1]

(f) The quotient of six and three is two   T   F   [1]

12

15. Is 1 a prime number? Explain your answer.

No - A prime number has exactly 2 factors. 1 has only one factor ∴ it is not a prime number

Answer (15) [2]

16. Evaluate the following: (Show working)

(a) 4 + 5 x 8 44 [1]

(b) 6 x 4 + 2 ÷ 1 26 [1]

(c) 2 x 10 + 5 25 [1]

(d) 9 – 8 + 2 3 [1]

17. Suzie has $500 in her bank. She withdraws $370. How much is in her bank account now?

$$\begin{array}{r} \$500 \\ -\ 370 \\ \hline 130 \end{array}$$

Answer (17) $130 [2]

18. Jamie walks 3 kilometers every day. How far does Jamie walk in 5 weeks.

3 x 7 x 5

Answer (18) 105 km [2]

19. (a) A movie theatre charges $9 for a child's ticket and $12 for an adult's ticket. There are 25 children and 15 adults in the movie theatre. How much money was paid for all the tickets?

$$\begin{array}{r} 25 \\ \times\ 9 \\ \hline 225 \end{array} \qquad \begin{array}{r} 15 \\ \times\ 12 \\ \hline 180 \end{array} \qquad \begin{array}{r} 225 \\ +\ 180 \\ \hline 405 \end{array}$$

Answer (19a) $405 [2]

(b) If there were 30 children's tickets sold and the total money for all the tickets was ~~$58,~~ $582 how many adult tickets were sold?

$$\begin{array}{r} 30 \\ \times\ 9 \\ \hline 270 \end{array} \qquad \begin{array}{r} 582 \\ -\ 270 \\ \hline 312 \end{array} \qquad 12 \overline{)312} = 26 \quad \begin{array}{r} 24 \\ \hline 72 \end{array}$$

Answer (19b) 26 tickets [2]

14

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. Find the value of each letter.

B	D	B	C
-	C	A	D
A	C	A	C

2025
- 510
1515

A = 1 B = 2 C = 5 D = 0 [2]

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21. Use the digits 1, 2, 3, 4, 5, 6, 7, 8 and 9 once each to fill in the blanks of this puzzle:

$$\begin{array}{r} 8 \\ +\boxed{7} \\ \hline \boxed{1}\,\boxed{5} \end{array} \qquad \begin{array}{r} \boxed{8} \\ \times\boxed{4} \\ \hline 3\,\boxed{2} \end{array}$$

$\boxed{9} - \boxed{3} = \boxed{6}$

5

[3]

Working Space: