ACG PARNELL COLLEGE
ACADEMIC COLLEGES GROUP

Year 7 Mathematics 2016

Common Test 1: Whole Number

Total marks: 65 **Name**_____ **Tutor Class**_____

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

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1. Put the following numbers in **descending** order. *Note: No working is required*

$$\mathbf{77717}, \quad \mathbf{8987}, \quad \mathbf{637114}, \quad \mathbf{123000}, \quad \mathbf{97312}$$

Answer $637114,\ 123000,\ 97312,\ 77717,\ 8987$ [1 mark if ascending, or if two numbers swapped] [2]

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

$$9 \quad 4 \quad 5 \quad 1 \quad 7$$

(a) A two digit composite number $49, 94, 45, 54, 51, 15, 75, 74\ etc$ [1]

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

(c) A factor of 24 4 [1]

(d) A two-digit prime number $17, 19, 71, 47, 41$ [1]

(e) A square number 1, 9, or 49 [1]

(f) The smallest 5-digit number 14579 [1]

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3. Answer the questions below about the number

$$59603$$

(a) Round to the nearest thousand $60{,}000$ [1]

(b) Write the number in words *fifty-nine thousand, six hundred and three* [1]

(c) What is the place value of the 9? $thousands\ (1000's)$ [1]

(d) What is the value of the 6? 600 [1]

(e) Write the number in expanded form

$5 \times 10{,}000 + 9 \times 1000 + 6 \times 100 + 3 \times 1$ [1]

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

(a) $3 \times 100\,000 + 2 \times 1000 + 7 \times 10 + 6 \times 1$ $302{,}076$ [1]

(b) $3 \times 100 + 6 \times 1000 + 2 \times 10\,000 + 7 \times 10$ $26{,}370$ [1]

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5. Write in expanded form

(a) $80\,207$ $8 \times 10000 + 2 + 100 + 7$ [1]

(b) 9046 $9 \times 1000 + 4 \times 10 + 6$ [1]

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6. Round the following amounts of money

(a) $\$623.50$ to the nearest dollar $\$624$ [1]

(b) $\$13.89$ to the nearest ten cents $\$13.90$ [1]

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7. Use leading figure approximation to **estimate** the answers to the following, **show your working.**

(a) $173 \div 2 + 1298$

$200 \div 2 + 1000$

Answer 1100 [2]

(b) $76 + 2846 + 1976$

$80 + 3000 + 2000$

Answer 5080 [2]

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8. (a) Write down the first **five** multiples of 5 **and** 8:

Multiples of 5 $5, 10, 15, 20, 25$ [1 mark if misses one] [2]

Multiplies of 8 $8, 16, 24, 32, 40$ [2]

(b) What is the lowest common multiple of 5 and 8?

40 [1]

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9. Perform the following calculations **by hand showing full working**

a) 217 + 38

$$\begin{array}{r} {}^{1}217 \\ +\ 38 \\ \hline 255 \end{array}$$

Answer: 255 [2]

b) Find the difference between 9000 and 2346

$$\begin{array}{r} {}^{8}{}^{9}{}^{9}{}^{1}\cancel{9}\cancel{0}\cancel{0}\cancel{0} \\ -\ 2346 \\ \hline 6654 \end{array}$$

Answer: 6654 [2]

c) 32 × 5

$$\begin{array}{r} {}^{1}32 \\ \times\ 5 \\ \hline 160 \end{array}$$

Answer: 160 [2]

d) 1026 ÷ 3

$$3\overline{)1026} \quad 342$$

Answer: 342 [2]

e) Find the product of 14 and 76

$$\begin{array}{r} {}^{2}14 \\ \times\ 76 \\ \hline {}^{1}84 \\ 980 \\ \hline 1064 \end{array} \qquad \begin{array}{r} {}^{2}76 \\ \times\ 14 \\ \hline 304 \\ 760 \\ \hline 1064 \end{array}$$

Answer: 1064 [3]

f) Find the sum of 685 and 45 and 186

$$\begin{array}{r} {}^{2}{}^{1}685 \\ 45 \\ 186 \\ \hline 916 \end{array}$$

Answer: 916 [2]

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10. (a) List the factor pairs for 24

Answer 1, 24 2, 12 3, 8 4, 6 [1]

(b) List the factors in ascending order of 60

[1 mark if at least 8 correct factors listed]

[1 mark if all 12 factors listed but an incorrect factor(s) included]

Answer 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60 [2]

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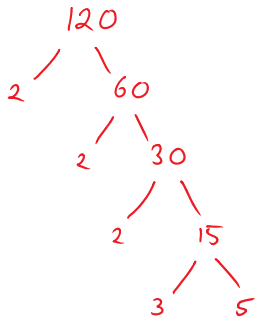
11. Write 120 as a product of its prime factors, **show your working**.



Answer $2 \times 2 \times 2 \times 3 \times 5$ [2]

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12. Write down all the numbers which end in a 3, are prime and are less than 50

[1 marks if 3 correct numbers]

[lose a mark for each incorrect number listed]

Answer $3, 13, 23, 43$ [2]

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13. Circle the correct answer, True or False.

(a) Adding a zero always results in zero	T	F	[1]
(b) Even numbers are divisible by two	T	F	[1]
(c) Composite numbers have exactly two factors	T	F	[1]
(d) Adding two even numbers always results in an even number	T	F	[1]
(e) The product of four and five is twenty	T	F	[1]
(f) 1786 is divisible by 5	T	F	[1]

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14. Is 3245 divisible by 3? Explain your answer.

No [1 mark]

Because the digits 3+2+4+5=14, 14 is not divisible by 3 therefore 3245 is not divisible by 3 [1 mark]

[2]

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15. Evaluate the following: **Show your working**.

(a) 3 + 5 x 8 $3 + 40 = 43$ [1]

(b) 5 x 6 + 9 ÷ 3 $30 + 3 = 33$ [1]

(c) 2 x 10 ÷ 5 $20 \div 5 = 4$ [1]

16. Use your knowledge of the distributive property to answer the following:

(a) Which is equal to $8 \times (2 + 7)$. Please circle the correct answer.

A $8 \times 2 + 7$ **B** $8 \times 2 + 8 \times 7$ **C** $2 + 8 \times 7$ [1]

(b) True or false?

$$6 \times (4 + 3) = 6 \times 4 + 6 \times 3$$

True [1]

(c) Fill in the missing number. [1]

$$5 \times 9 + 5 \times 8 = 5 \times (\ 9 + 8)$$

(d) Fill in the missing number. [1]

$$4 \times 3 + 4 \times 2 = 4 \times (\ 5\ )$$

[allow 3+2]

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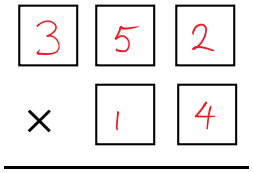
17. Arrange the digits 1, 2, 3, 4 and 5 in the squares to get a product of 4928.



[give 1 mark if students numbers multiply to give a 4–digit number ending in 8] [2]

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18. I'm thinking of two numbers. Multiply my two numbers and you get 36. Divide the larger number by the smaller number and you get 4. What are my two numbers?

[1 mark for giving two numbers which fulfil one of the given criteria]

$12\ and\ 3$ [2]

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19. What is the mystery number? (There is more than one solution, you need only give one)

It's greater than 2.

It's less than 10.

When you divide 83, 179 and 275 by the mystery number, you get the same remainder.

[must show working to justify their answer]

3, 4, 6 or 8 [2]