NUMERACY REVIEW – UNIT TEST REVIEW

1. Solve by addition or subtraction (8 marks)

   a) $10 - 2$

   $= 8$

   b) $-5 -11$

   $= -16$

   c) $-4 +5$

   $= 1$

   d) $6- (-5)$

   $= 6 +5$
   $= 11$

   e) $(-1) + (-5) + (-9)$

   $= -1 - 5 - 9$
   $= -6 - 9$
   $= -15$

   e) $12-(-6) + (-4) -9$

   $= 12 + 6 - 4 - 9$
   $= 18 - 4 - 9$
   $= 14 - 9$
   $= 5$

2. At the start of the summer Erin had $560 in her bank account. Over the summer she spent $235 and made $468 working her part-time job. How much money should Erin have in her account at the end of the summer? (3 marks)

   $560 - 235 + 468$
   $= 325 + 468$
   $= \$793$

   ∴ She had $793 at the end of the summer

3. Solve by multiplication or division (6 marks)

   a) $6 \times (-4)$

   $= -24$

   c) $(-2) \times (-1)$

   $= 2$

   e) $-\frac{24}{4}$

   $= -6$

   b) $\left(\frac{-8}{2}\right)$

   $= -4$

   d) $(-36) \div (-9)$

   $= 4$

   f) $-4(2)(-3)$

   $= -8(-3)$
   $= 24$

4. Determine a pair of integers that meet the criteria outlined (6 marks)

   a) Multiply to -20
   Add to 1

-20	
-1	20
1	-20
-2	10
2	-10
-4	**5**	add to 1
4	-5

   b) Multiply to 42
   Add to -13   therefore 2 negative #'s

42	
-1	-42
-2	-21
-3	-14
-6	**-7**	add to -13

   c) Multiply to 25
   Add to 10

25	
1	25
5	**5**	add to 10

5. Write each expression as a power (2 marks)

a) $4 \times 4 \times 4 \times 4 \times 4$

$= 4^5$

b) $(-2) \times (-2) \times (-2)$

$= (-2)^3$

6. For each power, indicate which number is the base and which is the exponent (3 marks)

a) 5^3

Base: 5

Exponent: 3

b) $(-6)^4$

Base: (-6)

Exponent: 4

c) 125^1

Base: 125

Exponent: 1

7. Evaluate (2 marks)

a) 5^3

$= 125$

b) 2^5

$= 32$

8. Evaluate (3 marks)

a) $\sqrt{36}$

$= 6$

b) $\sqrt{64}$

$= 8$

c) $\sqrt{12}$

$= 3.46$

9. Evaluate (6 marks)

a) $2^5 - 5^1$

$= 32 - 5$

$= 27$

b) $4^2 + 10^2$

$= 16 + 100$

$= 116$

c) $\sqrt{20 - 4}$

$= \sqrt{16}$

$= 4$

c) $\sqrt{36} + 2^3$

$= 6 + 8$

$= 14$

e) $9^2 - \sqrt{68 - 4}$

$= 9^2 - \sqrt{64}$

$= 81 - 8$

$= 73$

f) $3^3 - \sqrt{9} + 2^3$

$= 27 - 3 + 8$

$= 24 + 8$

$= 32$

10. Simplify. (Don't forget BEDMAS rules) –SHOW ALL YOUR WORK– (11 marks)

a) $-5 + 4 \times 2$

$= -5 + 8$

$= 3$

b) $2(4 - 1) + 2 \times 3$

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

$= 6 + 2 \times 3$

$= 6 + 6$

$= 12$

c) $4(-3 + 1)^2 - (6 - 4)^3$

$= 4(-2)^2 - (2)^3$

$= 4(4) - 8$

$= 16 - 8$

$= 8$

f) $\sqrt{49} - (-4) + 3^2$

$= 7 - (-4) + 9$

$= 7 + 4 + 9$

$= 11 + 9$

$= 20$

11. Evaluate using substitution. (12 marks)

a) $6a + 3b$ when $a = 3, b = -2$

$= 6(3) + 3(-2)$

$= 18 + (-6)$

$= 18 - 6$

$= 12$

c) $-9x + y^2$ when $x = -4, y = -7$

$= -9(-4) + (-7)^2$

$= -9(-4) + 49$

$= 36 + 49$

$= 85$

b) $x^2 - 3x + 10$ when x = 2

$= (2)^2 - 3(2) + 10$

$= 4 - 3(2) + 10$

$= 4 - 6 + 10$

$= -2 + 10$

$= 8$

d) $y^2 + 4y - 13$ when y = 4

$= (4)^2 + 4(4) - 13$

$= 16 + 4(4) - 13$

$= 16 + 16 - 13$

$= 32 - 13$

$= 19$

12. Write the following ratios in simplest form (3 marks)

a) 18:20 $\div 2$

$= 9:10$

b) 20:40 $\div 20$

$= 1:2$

c) 36:720 $\div 36$

$= 1:20$

13. Evaluation the following fractions. (6 marks)

a) $\frac{3}{4}^{\times 5} + \frac{1}{5}^{\times 4}$ LCD = 20

$= \frac{15}{20} + \frac{4}{20}$

$= \frac{19}{20}$

b) $\frac{7}{15} - \frac{2}{5}^{\times 3}$ LCD = 15

$= \frac{7}{15} - \frac{6}{15}$

$= \frac{1}{15}$

c) $\frac{3}{4} \times \frac{2}{5}$

$= \frac{6}{20} \div 2$

$= \frac{3}{10}$

d) $\frac{3}{4} \div \frac{7}{8}$

$= \frac{3}{4} \times \frac{8}{7}$

$= \frac{24}{28} \div 4$

$= \frac{6}{7}$

14. Jill thinks that -3 x -5 = 15. Her friend thinks that the answer should be -15.
Who is correct? Explain your answer. (2 marks)

Jill is correct. When you multiply two terms where the signs are the same, you get a positive answer

15. The temperature this morning at sunrise was 5°C. It rose 12°C by midday and then fell 7° by sunset. What was the temperature at sunset? (3 marks)

$$5 + 12 - 7$$
$$= 17 - 7$$
$$= 10$$

∴ The temperature at sunset was 10 °C

16. John wants to buy a used ATV that costs $2100 by the end of the summer. He has $650 in his account at the start of the summer. He figures he will make about $1900 from his summer job and he wants to be able to spend $350 on daily expenses. Will he have enough money at the end of the summer to buy the ATV? (3 marks)

$$650 + 1900 - 350$$
$$= 2550 - 350$$
$$= \$2200$$

∴ John will be able to afford the ATV