Name				
Class	A		Term	3
Year	8		Quiz Number:	2

1) Sara thinks of a number, x. She divides the number by 3, then adds 7.
Write an expression for the number Sara gets. **[1]**

....

....

2) Copy and complete

a $\quad 3^2 \times 3^4 = 3^{\square}$ b $\quad \dfrac{5^{12}}{5^9} = 5^{\square}$ c $\quad \left(7^2\right)^5 = 7^{\square}$ **[3]**

Expand

a $\quad x(x+2)$ b $\quad 3y(4y - 7w)$ **[2]**

....

3) Write each ratio in its simplest form. **[3]**

     a) 48: 24   ....

     b) 25: 125   ....

     c) 27 : 45 : 18   ....

4) Here are the first five terms of a number sequence. **[2]**

     126   122   118   114   110

     a) Write down the next two terms of the number sequence. .... , ...

     b) Find an expression, in terms of n, for the nth term of the sequence.

     ....

5) Write whether each number is rational or irrational.

a $\sqrt{4}$ b $\sqrt{5}$ c $\sqrt{6.25}$

d $\sqrt{62.5}$ e $\sqrt{625}$

[5]

a) ....   b) ....

c) ....   d) ....

e) ....

6) Which answer is correct, **A, B, C** or **D**?

[4]

a   Simplify $\frac{6x^6}{12x^3}$ **A** $2x^2$ **B** $2x^3$ **C** $\frac{1}{2}x^2$ **D** $\frac{1}{2}x^3$

b   Simplify $\frac{4y^8}{10y^2}$ **A** $\frac{2}{5}y^6$ **B** $\frac{2}{5}y^4$ **C** $2\frac{1}{2}y^6$ **D** $2\frac{1}{2}y^4$

c   Simplify $\frac{25k^3}{15k^2}$ **A** $\frac{3}{5}k$ **B** $\frac{3}{5}k^{1.5}$ **C** $\frac{5}{3}k$ **D** $\frac{5}{3}k^{1.5}$

d   Simplify $\frac{20m^6}{6m^6}$ **A** $3\frac{1}{3}m$ **B** $3\frac{1}{3}$ **C** $\frac{3}{10}m$ $\frac{3}{10}$

7) Expand and simplify.

a) $(x + 3)(x + 7) =$ ....

[2]

b) $(x - 4)(x + 8) =$ ....

8) Work out the value of each expression when x = 3, y = 5 and z = −2

a) $x(3y + z) =$ ....

[3]

b) $(2x)^2 + y^3 =$ ....

c) $\frac{(x + y)}{4} - 5z =$ ....

Good Luck ☺

Total Marks	
	25