

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]

$$\frac{x}{3} + 7$$

2) Copy and complete

a $3^2 \times 3^4 = 3^{\boxed{6}}$

Expand

a $x(x + 2)$

$$x^2 + 2x$$

b $\frac{5^{12}}{5^9} = 5^{\boxed{3}}$

b $3y(4y - 7w)$

$$12y^2 - 21y$$

c $(7^2)^5 = 7^{\boxed{10}}$

[3]

[2]

3) Write each ratio in its simplest form.

[3]

a) $48 : 24 = 2 : 1$ or 2

b) $25 : 125 = 1 : 5$

c) $27 : 45 : 18 = 3 : 5 : 2$

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. **106, 102**

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

$$130 - 4n \text{ or } -4n + 130$$

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) **Rational**

b) **Irrational**

c) **Rational**

d) **Irrational**

e) **Rational**

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 $\frac{3}{10}m$

D $\frac{3}{10}$

7) Expand and simplify.

a) $(x + 3)(x + 7) = x^2 + 10x + 21$

[2]

b) $(x - 4)(x + 8) = x^2 + 4x - 32$

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

a) $x(3y + z) = 39$

[3]

b) $(2x)^2 + y^3 = 161$

c) $\frac{(x + y)}{4} - 5z = 12$

Good Luck 😊

Total Marks

25