Student name: _____ Marks: _____ / 53

Example Quiz

You can use a scientific calculator to solve the questions.

Time given: 15 minutes. Good luck!

1. What is the coefficient of x in $x^2 - x + 2$?

2. Expand $3(x^2 - 2x)$. [5]

3. Collect the like terms for $x^2 + 3x - 2x - 7$.

4. Expand and simplify $(x + 2)(x + 3) - x^2$. [4]

5. Simplify this algebraic fraction: $\frac{2(x + 3)(x - 2)}{x - 2}$. [4]

6. Fully factorise $x^2 - 5x + 6$. [4]

7. Which expression is equal to $x^2 - x$?

A. $x(x + 1)$

B. $x(x - 1)$

C. $x^2 - 2x - x$

D. $x^2 + 2x - x$

8. If you expand $(2x - 1)(x + 3)$, what will be the coefficient of x?

A. -6 B. -3 C. 5 D. 6

9. Simplify: [4]

(a) $\frac{3x}{x}$

(b) $\frac{3x^2y}{12y^3}$

10. Use index laws to simplify the following. [total: 7]

(a) $x^2y^3 \times xy^2z^3 \times x^5z^2$ [3]

(b) $\frac{x^{10}y^{12}}{x^3y^{-2}}$ [4]

11. Simplify: [total: 7]

(a) $3a + 8a$ [1]

(b) $5x + 2x + 4x$ [1]

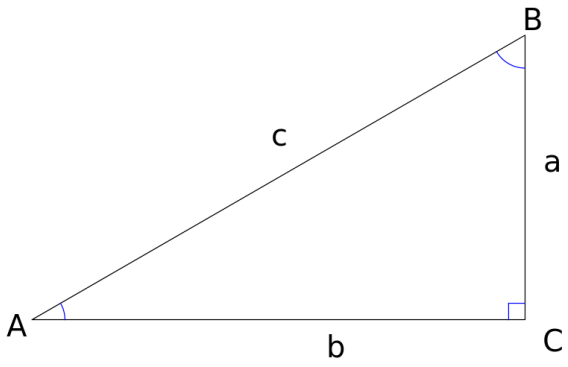
(c) $4y - 3y + 8$ [1]

(d) $7x + 5 - 4x$ [1]

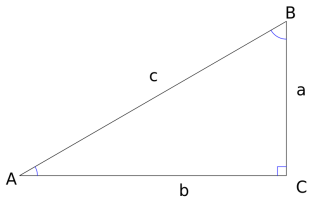
(e) $2 - 5m - m$ [1]

(f) $y^2 + 2y + 3y - 1$ [2]

12. What is the most specific name of this shape? [1]



13. For the diagram on the right, [total: 3]



(a) find x. [1]

(b) find the angle opposite the side that is 15 cm long. [2]

14. Rationalise the denominator of $\frac{2}{\sqrt{1+x}}$, where $x \geq -1$. [2]

15. Fully factorise: [total: 9]

(a) $x^2 + 3x + 2$ [3]

(b) $2x^2 - 14x + 20$ [2]

(c) $2x^2 - x - 1$ [4]

Answer key

14. $\dfrac{2\sqrt{x+1}}{x+1}$

15. (a) $(x+1)(x+2)$

(b) $2(x-2)(x-5)$

(c) $(2x+1)(x-1)$