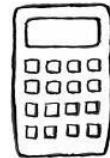


Name:

Teacher  
Assessment



Topic 22B - H  
Simplifying and Substitution

## Section A

## Simplifying

## Grade D → B

1. Simplify the expression

$$2c + 6d + 4c - 8c$$

.....

Answer .....

(Total 2 marks)

2. (a) Expand  $3(4y + 1)$

.....

Answer.....

(1)

- (b) Expand  $4x(x^2 + 5)$

.....

Answer.....

(2)

(Total 3 marks)

3. Expand and simplify

$$5(2a - c) + 4(3a + 2c)$$

.....

.....

Answer .....

(Total 2 marks)

4. (a) Expand and simplify  $4(2x - 1) + 3(x + 6)$

.....

.....

.....

Answer .....

(2)

- (b) Expand  $x^2(4 - 2x)$

.....

.....

Answer .....

(2)

(Total 4 marks)

5. Expand and simplify

$$4(3d - 2e) - (2d - 5e)$$

.....  
.....  
.....

Answer .....

(Total 2 marks)

6. Expand and simplify

$$5(2x + 1) - 3(x - 4)$$

.....  
.....

Answer .....

(Total 2 marks)

7. Expand and simplify  $(x + 3)(x + 1)$

.....  
.....  
.....

Answer .....

(Total 2 marks)

8. (i) Expand and simplify  $(y + 5)(y - 1)$

.....  
.....  
.....

Answer .....

(2)

- (ii) When  $y$  is an odd number, explain why  $(y + 5)(y - 1)$  is an even number.

.....  
.....  
.....  
.....

(1)

(Total 3 marks)

9. Expand and simplify  $(2x - 3)(3x + 5)$

.....  
.....

Answer .....

**(Total 3 marks)**

10. Expand and simplify  $(4x - 3)(x + 5)$

.....  
.....  
.....  
.....

Answer .....

**(Total 3 marks)**

11. Multiply out and simplify  $(n + 3)^2$

.....  
.....  
.....

Answer .....

**(Total 2 marks)**

12. Simplify  $(2xy^2)^3$

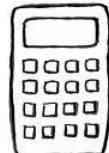
.....  
.....

Answer .....

**(Total 2 marks)**

Success:

Target:

**Section B****Factorising****Grade D → A**

1. Factorise  $6a - 10$

.....

Answer .....

(Total 1 mark)

2. Factorise  $2x + 6$

.....

Answer.....

(Total 1 mark)

3. Factorise completely  $2a^2 - a$

.....

Answer .....

(Total 2 marks)

4. (a) Factorise  $10p - 4$

.....

Answer .....

(1)

- (b) Factorise  $q^2 + 3q$

.....

Answer .....

(1)

- (c) Factorise  $r^2 - r$

.....

Answer .....

(1) (Total 3 marks)

5. (a) Factorise  $4c + 12$

.....

Answer .....

(1)

- (b) Factorise  $x^2 + 5x$

.....

Answer .....

(2)(Total 3 marks)

6. (a) Factorise  $10a + 5$

.....

Answer .....

(1)

- (b) Factorise  $c^2 - 4c$

.....

Answer .....

(2)(Total 3 marks)

7. (a) Factorise  $3x - 6$

.....

Answer .....

(1)

- (b) Factorise  $x^2 - 2x$

Answer .....

(2)(Total 3 marks)

8. Factorise completely  $12y^2 - 8y$

.....

.....

Answer .....

(Total 2 marks)

9. Factorise fully  $6ab^2 - 2ab$

.....

.....

Answer .....

(Total 2 marks)

10. Factorise  $y^2 + 5y + 6$

.....

.....

.....

Answer .....

(Total 2 marks)

11. Factorise  $x^2 + 10x + 25$

.....  
.....

Answer .....

(Total 2 marks)

12. Factorise  $x^2 + 3x - 40$

.....  
.....

Answer .....

(Total 2 marks)

13. Factorise  $x^2 + 6x - 16$

.....  
.....

Answer .....

(Total 2 marks)

14. Factorise  $x^2 + 5x - 14$

.....  
.....

Answer .....

(Total 2 marks)

15. Factorise  $x^2 - 7x - 8$

.....  
.....

Answer .....

(Total 2 marks)

16. Factorise  $x^2 - 13x + 36$

.....  
.....

Answer .....

(Total 2 marks)

17. Factorise  $h^2 - 25$

.....

Answer .....

(Total 1 mark)

18. Factorise  $m^2 - 49$

.....

Answer .....

(Total 1 mark)

19. Factorise fully  $2x^2 - 50y^2$

.....  
.....  
.....

Answer .....

(Total 3 marks)

20. (a) Factorise  $x^2 - 10x + 25$

.....  
.....

Answer .....

(2)

- (b) Factorise  $2x^2 + 3x - 5$

.....  
.....

Answer .....

(2)

(Total 4 marks)

21. Factorise  $2n^2 + 5n + 3$

.....  
.....  
.....

Answer .....

(Total 2 marks)

**22.** Factorise

(a)  $x^2 - 4$

.....

Answer.....

(1)

(b)  $3x^2 - 12$

.....

.....

Answer.....

(2)

(c)  $5x^2 - 17x + 6$

.....

.....

.....

.....

.....

Answer.....

(2)

**(Total 5 marks)**

**23.**

Factorise  $3x^2 + 5x - 12$

.....

.....

.....

.....

.....

Answer .....

**(Total 2 marks)**

24. (a) Factorise

$$5x^2 + 20x$$

.....

Answer .....

(1)

(b) Factorise

$$x^2 - 49$$

.....

.....

Answer .....

(1)

(c) Factorise fully

$$(3x + 4)^2 - (2x + 1)^2$$

.....

.....

.....

.....

.....

.....

.....

.....

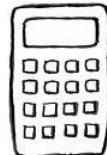
Answer .....

(3)

**(Total 5 marks)**

Success:

Target:



## Section C

# Algebraic Fractions

Grade A / A\*

1. Simplify  $\frac{x^2 - 9}{x^2 + 3x}$

.....

.....

.....

.....

.....

.....

.....

.....

Answer .....

**(Total 3 marks)**

- 2.** Simplify fully the expression

$$\frac{8x^2 + 24x}{2x^2 + 5x - 3}$$

---

---

---

---

Answer .....

(Total 3 marks)

- ### 3. Simplify

$$\frac{5x^2 + 14x - 3}{x^2 - 9}$$

---

---

---

---

---

---

---

Answer .....

(Total 4 marks)

- #### **4.** Simplify fully

$$\frac{x^2 - 16}{3x^2 + 10x - 8}$$

---

---

---

---

**Answer** .....

(Total 4 marks)

- ## 5. Simplify

$$\frac{3x^2 + x - 2}{9x^2 - 4}$$

---

---

---

---

---

---

---

Answer .....

(Total 4 marks)

## Success:

## Target: