

Chapter 2 – Test

Identities and Factorization

Marks

32

Name: _____

Class: _____ ()

Time allowed: 35 minutes

Part A (10 marks)

For questions 1 – 5, each question carries two marks. Choose the best answer for each question.

1. Which of the following is NOT an identity?

A. $2(x-3)-5=2x-11$

B. $-(x-5)-2=3-x$

C. $10x+3=5(2x+1)-2$

D. $-14x-35=-7(2x-5)$

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2. If A is a constant such that $A+2(x+3)\equiv 7+2x$, find the value of A .

A. 1

B. 2

C. 3

D. 4

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3. Expand $(-a+6b)(6b+a)$.

A. $12ab$

B. a^2-36b^2

C. $36b^2-a^2$

D. $36b^2+a^2$

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4. Factorize $ac-cd+ab-bd$.

A. $(d-a)(c+b)$

B. $(d-a)(c-b)$

C. $(a-d)(c-b)$

D. $(a-d)(c+b)$

☐

5. Factorize $20d-4d^2-25$.

A. $-(2d-5)^2$

B. $-(2d+5)^2$

C. $(2d-5)^2$

D. $(2d+5)^2$

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Part B (22 marks)

(Write your answers in the space provided.)

6. Determine whether $(x - 5)(x - 2) = 10 + x(x - 5) - 2x$ is an identity. (3 marks)

7. If $x(Ax + 6) - 3(2x - A) \equiv -5x^2 - B$, where A and B are constants, find the value of B .

(4 marks)

8. Factorize $ac + bc - ad - bd + ae + be$.

(2 marks)

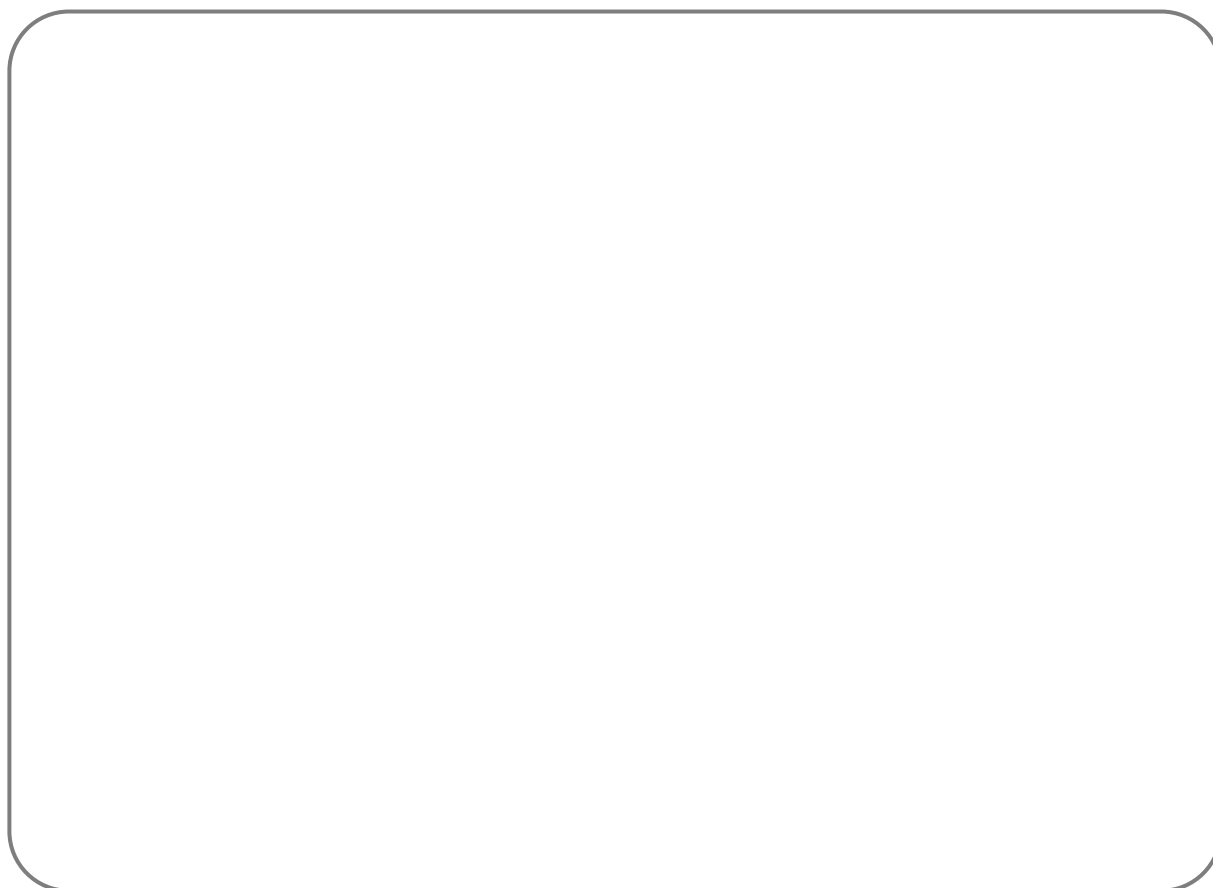


9. Expand the following expressions.

(a) $(3x^2 - 7)^2$

(b) $\left(\frac{3a}{2} + \frac{b}{3}\right)^2$

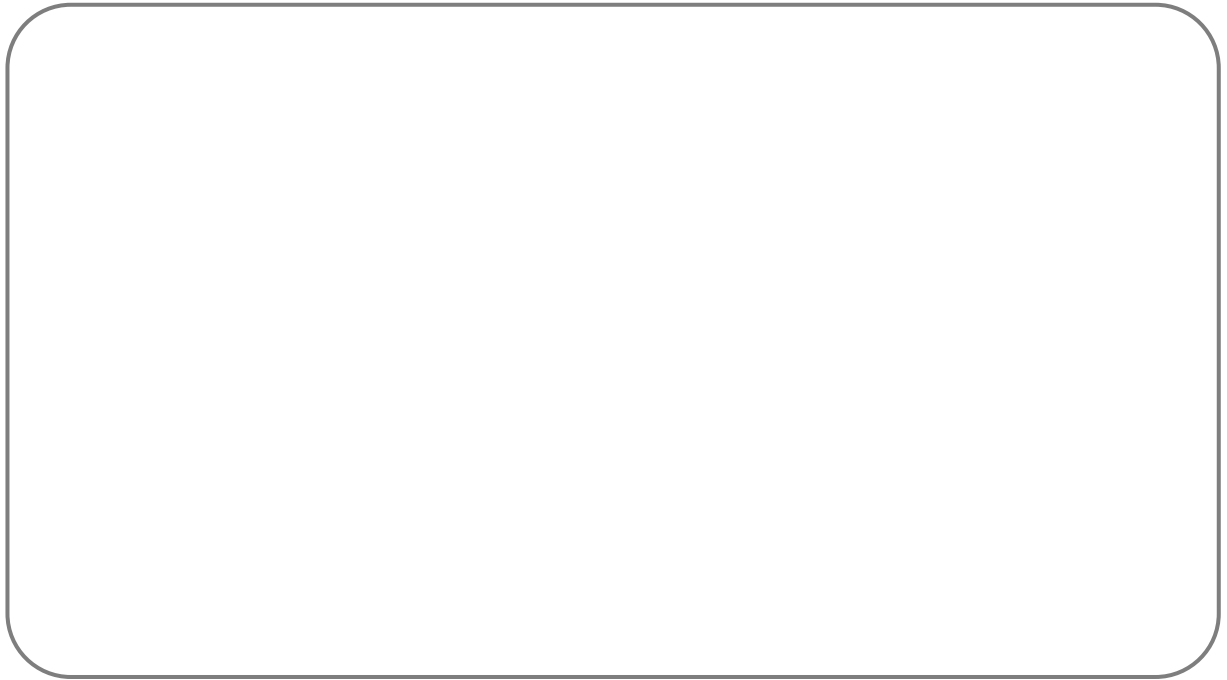
(4 marks)



10. (a) Factorize $25a^2 - 64$.

(b) Using the result of (a), factorize $25(p - 3)^2 - 64$.

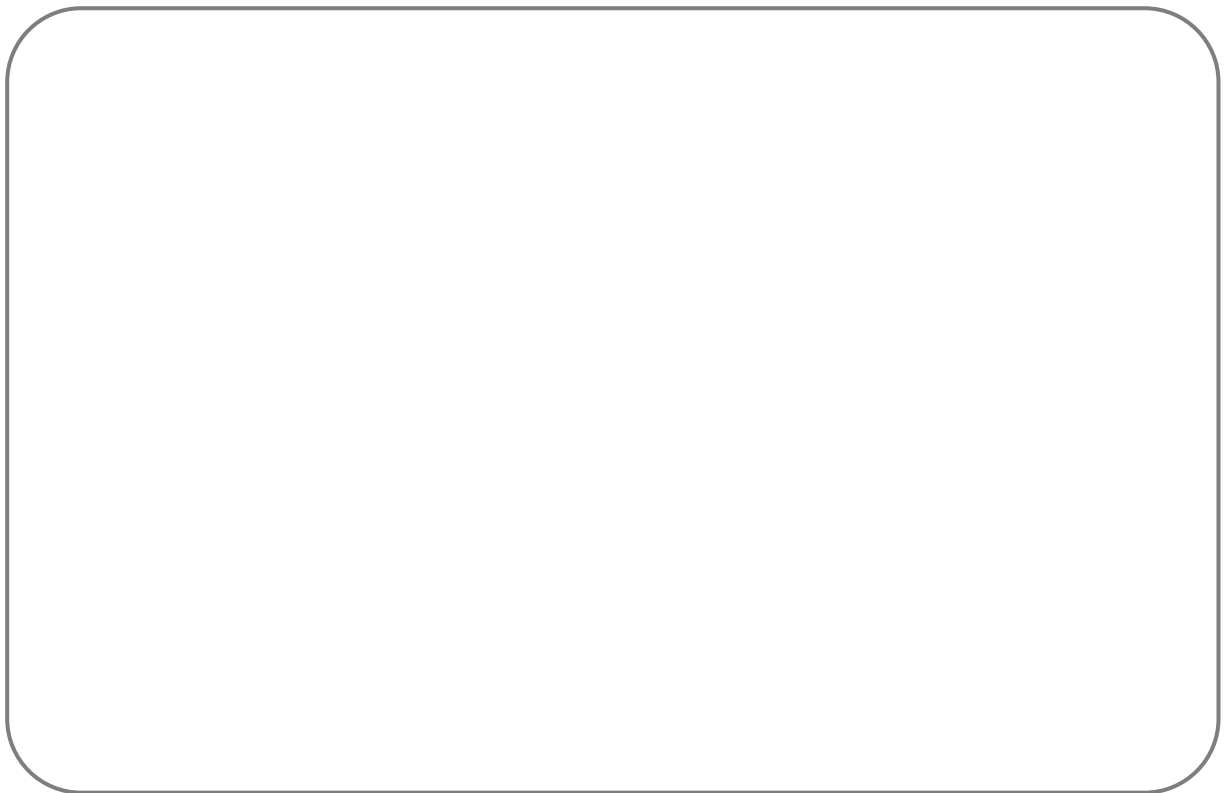
(4 marks)



11. (a) Factorize $2a^2 - 12ab + 18b^2$.

(b) Using the result of (a), factorize $2a^2 - 12ab + 18b^2 - 4a + 12b$.

(5 marks)



Bonus Question

- (a) Factorize $81x^2 - 18x + 1$.
- (b) Using the result of (a), factorize $81y^4 - 18y^2 + 1$.
- (c) Using the result of (b), factorize $81(2z - 1)^4 - 18(2z - 1)^2 + 1$.

(7 marks)

~ End of test ~