

BADAA AL MUTAWA SCHOOL

MATHEMATICS — MULTIPLE-CHOICE ASSESSMENT

Student Name: _____	Grade: _____
Date: _____	Subject: Mathematics
Subject Teacher: Abdulkader Amro	Total Questions: 36

Choose the one correct answer for each question. Circle A, B, C, or D.

SECTION 1 • SIMPLIFY EACH EXPRESSION

1. Simplify: $a(4a + 3)$

Original item 23

A. $a^2 + 3a$

B. $4a^2 - 3a$

C. $4a^2 + 3a$

D. $4a^2 + 12a$

2. Simplify: $-c(11c + 4)$

Original item 24

A. $-11c^2 + 4c$

B. $-11c^2 - 4c$

C. $11c^2 - 4c$

D. $11c^2 + 4c$

3. Simplify: $x(2x - 5)$

Original item 25

A. $2x - 5x$

B. $2x^2 - 5x$

C. $2x^2 + 5x$

D. $x^2 - 5x$

4. Simplify: $2y(y - 4)$

Original item 26

A. $y^2 - 8y$

B. $2y^2 - 4y$

C. $2y^2 - 8y$

D. $2y^2 + 8y$

5. Simplify: $-3n(n^2 + 2n)$ *Original item 27*

A. $-3n^2 - 6n$

B. $-3n^3 - 6n^2$

C. $3n^3 + 6n^2$

D. $-3n^3 + 6n^2$

6. Simplify: $4h(3h - 5)$ *Original item 28*

A. $12h^2 - 5h$

B. $12h^2 - 20h$

C. $7h^2 - 20h$

D. $12h^2 + 20h$

7. Simplify: $3x(5x^2 - x + 4)$ *Original item 29*

A. $15x^3 - x^2 + 4x$

B. $5x^3 - 3x^2 + 12x$

C. $15x^2 - 3x + 12$

D. $15x^3 - 3x^2 + 12x$

8. Simplify: $7c(5 - 2c^2 + c^3)$ *Original item 30*

A. $35c - 14c^2 + 7c^3$

B. $7c^4 - 14c^2 + 35c$

C. $7c^4 - 14c^3 + 35c$

D. $7c^3 - 14c^2 + 35c$

9. Simplify: $-4b(1 - 9b - 2b^2)$ *Original item 31*

A. $8b^3 - 36b^2 - 4b$

B. $8b^3 + 36b^2 + 4b$

C. $8b^3 + 36b^2 - 4b$

D. $-8b^3 - 36b^2 - 4b$

10. Simplify: $6y(-5 - y + 4y^2)$ *Original item 32*

A. $24y^2 - 6y - 30$

B. $4y^3 - 6y^2 - 30y$

C. $24y^3 + 6y^2 - 30y$

D. $24y^3 - 6y^2 - 30y$

11. Simplify: $2m^2(2m^2 + 3m - 5)$ *Original item 33*

A. $4m^4 + 6m^3 - 10m^2$

B. $4m^4 + 6m^2 - 10m$

C. $2m^4 + 6m^3 - 10m^2$

D. $4m^3 + 6m^2 - 10m$

12. Simplify: $-3n^2(-2n^2 + 3n + 4)$ *Original item 34*

A. $6n^3 - 9n^2 - 12n$

B. $6n^4 + 9n^3 - 12n^2$

C. $6n^4 - 9n^3 - 12n^2$

D. $-6n^4 + 9n^3 + 12n^2$

13. Simplify: $w(3w + 2) + 5w$ *Original item 35*

A. $3w^2 + 2w$

B. $3w^2 - 7w$

C. $8w^2 + 7w$

D. $3w^2 + 7w$

14. Simplify: $f(5f - 3) - 2f$ *Original item 36*

A. $5f^2 - 5f$

B. $5f^2 + 5f$

C. $5f^2 - f$

D. $5f^2 - 3f$

15. Simplify: $-p(2p - 8) - 5p$ *Original item 37*

A. $-2p^2 + 13p$

B. $2p^2 + 3p$

C. $-2p^2 - 3p$

D. $-2p^2 + 3p$

16. Simplify: $y^2(-4y + 5) - 6y^2$ *Original item 38*

A. $-4y^3 - 5y^2$

B. $4y^3 - y^2$

C. $-4y^3 + 11y^2$

D. $-4y^3 - y^2$

17. Simplify: $2x(3x^2 + 4) - 3x^3$ *Original item 39*

A. $6x^3 + 8x$

B. $3x^3 + 8x$

C. $3x^3 + 4x$

D. $-x^3 + 8x$

18. Simplify: $4a(5a^2 - 4) + 9a$ *Original item 40*

A. $20a^2 - 7a$

B. $20a^3 - 7a$

C. $20a^3 + 5a$

D. $5a^3 - 7a$

19. Simplify: $4b(-5b - 3) - 2(b^2 - 7b - 4)$

Original item 41

A. $-18b^2 + 2b + 8$

B. $-22b^2 - 2b - 8$

C. $-22b^2 + 2b + 8$

D. $-20b^2 + 14b + 8$

20. Simplify: $3m(3m + 6) - 3(m^2 + 4m + 1)$

Original item 42

A. $6m^2 + 6m - 3$

B. $3m^2 + 6m - 3$

C. $6m^2 + 6m + 3$

D. $6m^2 + 18m - 3$

21. Simplify: $-5q^2w(4q + 7w) + 4qw(7q^2w + 2q) - 3qw(3q^2w^2 + 9)$

Original item 43

A. $-9q^3w^3 + 28q^3w^2 - 20q^3w + 35q^2w^2 + 8q^2w - 27qw$

B. $9q^3w^3 + 28q^3w^2 - 20q^3w - 35q^2w^2 + 8q^2w - 27qw$

C. $-9q^3w^3 + 20q^3w^2 - 28q^3w - 35q^2w^2 + 8q^2w - 27qw$

D. $-9q^3w^3 + 28q^3w^2 - 20q^3w - 35q^2w^2 + 8q^2w - 27qw$

22. Simplify: $-x^2z(2z^2 + 4xz^3) + xz^2(xz + 5x^3z^3) + x^2z^3(3x^2z^2 + 4xz)$

Original item 44

A. $8x^4z^5 + x^2z^3$

B. $8x^4z^5 - x^2z^3$

C. $5x^4z^5 - x^2z^3$

D. $8x^4z^4 - x^2z^3$

SECTION 2 • SOLVE EACH EQUATION

23. Solve: $3(a + 2) + 5 = 2a + 4$

Original item 45

A. $a = -1$

B. $a = -7$

C. $a = 1$

D. $a = 7$

24. Solve: $2(4x + 2) - 8 = 4(x + 3)$

Original item 46

A. $x = 6$

B. $x = -4$

C. $x = 2$

D. $x = 4$

25. Solve: $5(y + 1) + 2 = 4(y + 2) - 6$

Original item 47

A. $y = 5$

B. Infinitely many solutions

C. No solution

D. $y = -5$

26. Solve: $4(b + 6) = 2(b + 5) + 2$

Original item 48

A. $b = -6$

B. $b = 4$

C. $b = 6$

D. $b = -4$

27. Solve: $6(m - 2) + 14 = 3(m + 2) - 10$

Original item 49

A. $m = 4$

B. $m = -4$

C. $m = -2$

D. $m = 2$

28. Solve: $3(c + 5) - 2 = 2(c + 6) + 2$

Original item 50

A. $c = -2$

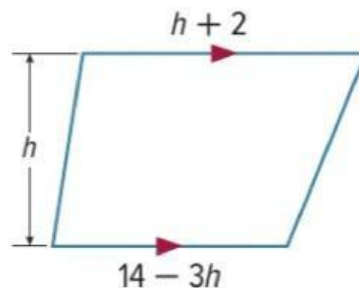
B. $c = 2$

C. $c = -1$

D. $c = 1$

SECTION 3 • STRUCTURE & APPLICATION

29. A trapezoid has bases $h + 2$ and $14 - 3h$, with height h . Which expression gives its simplified area?



Original item 52a

A. $4h - h^2$

B. $8h + h^2$

C. $8h - h^2$

D. $16h - 2h^2$

30. If the height of the trapezoid is 4 units, what is its area?

Original item 52b

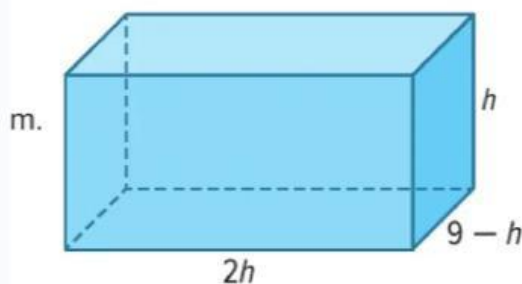
A. 12 square units

B. 24 square units

C. 16 square units

D. 20 square units

31. A rectangular prism has dimensions $2h$, h , and $9 - h$. Which expression gives its simplified volume?



Original item 54a

A. $18h - 2h^2$

B. $18h^2 - 2h^3$

C. $2h^3 - 18h^2$

D. $9h^2 - 2h^3$

32. If the height h of the rectangular prism is 6 units, what is its volume?

Original item 54b

A. 252 cubic units

B. 108 cubic units

C. 216 cubic units

D. 180 cubic units

33. A company expects to sell $45 - 5x$ products if each is priced at $1.25x$ dollars. Which expression represents the expected revenue?

Original item 55a

A. $56.25x - 6.25x^2$

B. $45x - 5x^2$

C. $56.25x + 6.25x^2$

D. $50x - 6.25x^2$

34. When $x = 4.5$, what is the price of each product, to the nearest cent?

Original item 55b

A. \$5.63

B. \$5.50

C. \$5.25

D. \$5.75

35. When $x = 4.5$, what is the expected revenue, to the nearest cent?

Original item 55c

A. \$126.56

B. \$140.63

C. \$112.50

D. \$135.00

36. The enclosed area is represented by the solid-line fence in the diagram. Using the labeled dimensions, which simplified expression gives the area of the enclosure?

Original item 56

A. $16s^2 - 3s$

B. $16s^2 + 3s$

C. $18s^2 - 3s$

D. $14s^2 + 3s$