

Name: _____ Period: _____ Date: _____

ID: A

FOMP 10 Chapter 5 Review Pack v1

Short Answer

Level 1-2 Questions

1. What is the product $(x + 9)(x - 5)$?
2. Expand $(x - 4)(x - 7)$?
3. What is the expression that is equal to $(4x - 3)(4x + 4)$.
4. Multiply and simplify $(5x + 2)^2$.
5. What is the greatest common factor (GCF) for the following set of terms? $45, 9i, 27i^2, 81i^2$

Name: _____

ID: A

6. The factored form of the expression $12t - 84$ is

7. What is the factored form of the expression $-14x + 14$?

8. What is the factored form of the expression $5x^2 - 55$?

9. Expand $(e - f)^2$?

10. Factor $x^2 - 17x + 42$.

11. What is the factored form of $x^2 - 2x - 24$?

Name: _____

ID: A

12. Determine the greatest common factor of the numbers 12, 54, and 72.

13. The expression $3a^2b^2c$ is called a(n) _____ .

14. The expression $7a^2b^2c + 8ab^2c^2 + 3a^2bc$ is called a(n) _____ .

Level 3-4 Questions

15. The surface of Aaron's computer desk has a width equal to $2x - 4$ and a length equal to $2x - 2$. What equation represents the area of the surface of the computer desk?

16. Melanie's bedroom floor has a width equal to $3x + 6$ and a length equal to $4x - 7$. What equation represents the area of the floor?

Name: _____

ID: A

17. What expression represents the surface area of a cube with a side length of $(x - 2)$ units?

18. The greatest common factor (GCF) for the set of terms $42b$, $63b$, $84b^2$, and $42b^2$ is

19. What is the factored form of $5m(n + 1) + 6o(n + 1)$?

20. What is the expression $-66x^2 + 24x + 18$ in factored form?

21. What is the least common multiple of the terms on , nop , and nm ?

22. What is the factored form of $6x^2 + 17x + 5$?

23. What is the factored form of $2x^2 + 28x + 80$.

Level 5-6 Questions

24. The area of a classroom door is represented by the equation $A = 35z^2 + 3500z$. When the expression is factored fully, the factors are the dimensions of the door. What are the actual height and width of the door if $z = 6$ cm?
25. The area of a rectangular school gym floor is represented by the equation $A = 130x^2 + 2600x$. When the expression is factored fully, the factors are the dimensions of the floor. The dimensions of the floor are
26. Factor $20x(a + b + c) + 14y(a + b + c) + 4w(a + b + c)$.
27. During intermission at a hockey game, small foam hockey pucks are launched from a height 2 m above the ice using a special sling shot. How long is a puck in the air if a student in the stands catches it on its way down 12 m above ice level? The model for the vertical motion of the puck can be approximated by the relation $h = -5t^2 + 15t + 2$, where t is the time in seconds, and h is the height in metres.

28. A rectangular prism has a width measuring x cm. Its length is 4 cm more than its width. Its height is 2 cm more than its length. Write an algebraic expression, in simplified form, for the surface area of the prism.
29. When the McKay family has a reunion, it is a tradition for each family member to shake hands with each of the other family members. Last year there were a total of 45 handshakes. The total number of handshakes, H , possible for x people is given by $H = \frac{x^2 - x}{2}$. How many people were at the McKay family reunion last year?

Level 7-8 Questions

30. The volume of a prism is given by the expression $18\pi x^3 + 48\pi x^2 + 32\pi x$. What shape could the prism be and what are its dimensions?
31. For each of the following expressions, determine all of the values of k that allow the trinomial to be factored over the integers.
- | | |
|----------------------|---------------------|
| a) $x^2 + kx - 19$ | b) $2x^2 + kx + 15$ |
| c) $9x^2 + kx + 121$ | d) $(x - 1)^2 - k$ |