

Math 2 Unit 9 Worksheet 6
Factoring Polynomials Completely

Name: _____
Date: _____ Per: _____

[1-15] Factor each polynomial completely.

1. $9g^2 - 24g + 16$

2. $6t^2 + 5t - 4$

3. $9b^3 + 65b^2 + 14b$

4. $4a^2 - 36a + 81$

5. $36x^3 + 60x^2 + 25x$

6. $49d^2 - 84d + 36$

7. $2s^2 + 13s + 6$

8. $2w^2 + 13w + 15$

9. $3d^3 + 20d^2 + 12d$

10. $3p^2 - 7p - 40$

11. $6r^2 - 10r - 24$

12. $4n^3 + 62n^2 - 32n$

13. $100t^2 - 100t + 25$

14. $5z^2 + z - 6$

15. $4g^3 + 24g^2 + 16g$

16. Which of the expressions is **NOT** a factor of:
 $5x^3 - 17x^2 + 14x$?

a) $5x - 7$

b) $x - 2$

c) $x - 7$

d) x

17. Which of the expressions is **NOT** a factor of:
 $4x^3 + 14x^2 + 6x$?

a) $2x$

b) $2x + 3$

c) $2x + 1$

d) $x + 3$

18. A rectangular prism has a volume of $10x^3 + 11x^2 - 8x$. What are three factors that could represent the possible dimensions of the rectangular prism? (Hint: Factor completely)



19. A rectangular prism has a volume of $22w^3 - 7w^2 - 2w$. What are three factors that could represent the possible dimensions of the rectangular prism? (Hint: Factor completely)



[20-25] Factor each polynomial completely.

20. $x^2 - 25y^2$

21. $75n^2 - 3p^2$

22. $x^2 + 8xy - 33y^2$

23. $25a^2 - 40ab + 16b^2$

24. $16x^2 - 81y^2$

25. $x^2 + 2xy - 63y^2$

[26-31] Review: Simplify.

26. $4x^2 + 4x^2$

27. $(3x + 2y) - (5x - 3y)$

28. $(4xy - 7y) + (3x^2 - 2y)$

29. $(2x + 3)(3x - 1)$

30. $(4x + 3)(x^2 + 2x - 10)$

31. $(x + 4)^2$

[32-33] Review: Factor Completely.

32. $4x^2 - 16$

33. $(x + 3)^2 - (x - 2)(x + 3)$