

Polynomial Operations Study Guide

Name _____

IM2 - Baker

Simplify the sum.

1. $(4u^3 + 4u^2 + 2) + (6u^3 - 2u + 8)$

2. $(5u^3 + 8u^2 + 2) + (7u^3 - 5u^2 + 5)$

Simplify the difference.

3. $(4w^2 - 4w - 8) - (2w^2 + 3w - 6)$

4. $(5w^2 - 5w + 7) - (2w^2 - 8w - 6)$

Simplify the product.

5. $3p^4(4p^4 + 7p^3 + 4p + 1)$

6. $(3x - 7)(3x + 7)$

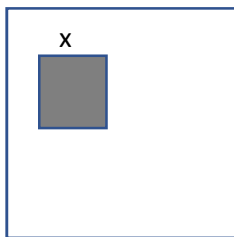
7. $(4x + 3)(2x + 5)$

8. $(5x + 3)(3x - 4)$

9. $(2x - 6)^2$

10. $(3n^2 + 5n + 4)(3n - 4)$

11. Find the area of the UNSHADED region of the square. Write your answer in standard form.



$x + 6$

Factor the polynomial by grouping.

12. $6g^3 + 8g^2 - 15g - 20$

13. $3x^3 + 3x^2 + x + 1$

Factor the trinomials.

14. $12d^2 + 4d - 1$

15. $6x^2 + 5x + 1$

16. $6g^2 + 11g - 35$

17. $d^2 - 14d + 49$

18. $21m^2 - 29m - 10$

Factor the binomial.

19. $r^2 - 49$

20. $49b^2 - 36$

Simplify. Put answer in simplest radical form.

21. $\sqrt{48}$

22. $\sqrt{216}$

23. $\sqrt{20a^3b^2}$

24. $\sqrt{22x^7}$

25. $\sqrt[3]{54}$

26. $\sqrt[5]{64a^{10}b^7c^3}$