Unit 10 Review

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Simplify each expression.

1) $(7p^3 + 5p - 7p^2) - (2p + 6p^3 + 6p^2)$

2) $(7 + 5x^2 + 3x) - (8x + 4x^3 + 6x^2)$

3) $(9g^3 + 5g + 16) + (9g^3 - 12g^2 + g)$

4) Review of Main Ideas

FACTORED FORM: $(2x+3)(5x+1)$

Product of binomial factors – "Two term polynomials multiplied by each other"

First term *Middle term* *Last term*

$(2x+3)(5x+1)$ $(2x+3)(5x+1)$ $(2x+3)(5x+1)$

$10x^2$ $+\ 15x$ 3

$2x$

$17x$

STANDARD FORM: $10x^2 + 17x + 3$

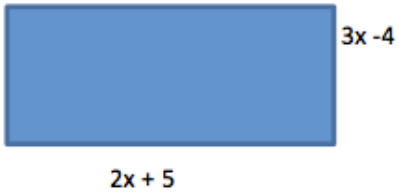
Trinomial – "Polynomials with three terms"

Factoring Trinomials:

**** Remember that Area = base x height ****

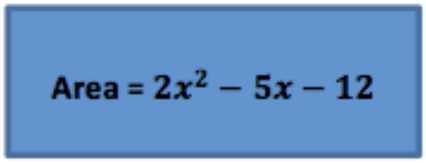
Double distributing

Find the area in terms of x.



Factoring

Find the base and height in terms of x.



Find each product.

5. $(3x-5)(4x+9)$	6. $(-2x-1)(-7x+3)$	7. $(2n+6)(-n^2+6n+4)$
8. $(3v+2)(-6v^2+4v-2)$	9. $(3x-4)^2$	

Factor completely.

10. $50k^2-60k$	11. $7n^3+28n^5-49n^6$
12. $-27x^4+18x^3-30x$	13. $-30-30x-70x^2$
14. $x^2+6x-27$	15. $3x^2+7x+2$

16. $9a^2 - 16$	17. $-20x + 2x^2 + 18$
18. $36x^2 + 6x - 12$	19. $10x^2 + 55x - 30$
20. $-n^2 + 10n - 24$	21. $6m^4 - 9m^3 - 6m^2$
22. $16x^2 - 80x + 100$	23. $x^3 + 2x^2 - x - 2$

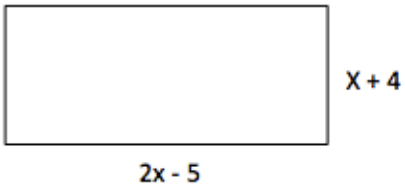
Solve each equation by factoring.

24. $r^2 - r - 2 = 0$	25. $x^2 = -4 - 4x$	26. $-r^2 - 6 = -7r$

27. $-3x^2 + x - 6 = -4x^2$	28. $-19r = 5r^2 - 4$	29. $2m^3 + m^2 - 98m = -3m^2 - 2m$

30. A)

Find the perimeter of the rectangle at the right. (Remember perimeter comes from adding up ALL the sides)



B) Find the area of the rectangle at the right. Remember the area of a rectangle is A = L x W.

Find the roots of the equation.

31. $y = 8x^2 + 6x - 9$

32. $f(x) = 2x^3 - 20x^2 + 18x$

33. $s(x) = 36x^2 - 84x + 49$

34. $f(x) = 2x^3 - 3x^2 + 4x - 6$

35. What do the roots tell you about the function?