

Answers for Lesson 9-1, pp. 497–498 Exercises

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|---|------|------|-----------------------------|
| 1. 1 | 2. 3 | 3. 0 | 21. $8m^2 + 15$ |
| 4. 10 | 5. 4 | 6. 0 | 23. $8w^2 - 3w + 4$ |
| 7. 4 | 8. 0 | | 25. $10g^4 + 11g$ |
| 9. quadratic trinomial | | | 27. $8y^4 + 7y^3 + 4y$ |
| 10. linear binomial | | | 29. $b + 1$ |
| 11. cubic trinomial | | | 31. $7n^4 + n^3$ |
| 12. not a polynomial | | | 33. $5w^2 - 4w + 10$ |
| 13. constant monomial | | | 35. $18y^2 + 8y$ |
| 14. quadratic binomial | | | 37. $-7z^3 + 6z^2 + 2z - 5$ |
| 15. $-3x^2 + 4x$; quadratic binomial | | | 39. $28c - 16$ |
| 16. $4x + 9$; linear binomial | | | 43. $-x^4 + x^3 + 15x$ |
| 17. $c^2 + 4c - 2$; quadratic trinomial | | | |
| 18. $-2z^2 + 5z - 5$; quadratic trinomial | | | |
| 19. $15y^8 - 7y^3 + y$; eighth degree trinomial | | | |
| 20. $4q^4 + 3q^2 - 8q - 10$; fourth degree polynomial with 4 terms | | | |



49. $5x + 18$

Warm Up

Simplify then state Degree (0,1,2,3 etc.) and Classify with both names (ex: linear binomial)

1) $(2x^2 + 5x - 7) + (x^2 - 2x + 9)$

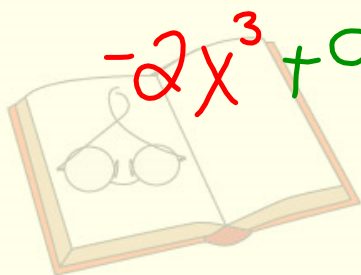
$3x^2 + 3x + 2$ quadratic trinomial

2) $(8x^3 + 6) - (10x^3 - 3)$

$8x^3 + 6 - 10x^3 + 3$

$-2x^3 + 9$

cubic binomial



Section 9.2

Multiplying and Factoring

Use the distributive property to multiply

Remember the multiplication rule for powers



$$2(x + 5)$$

$$2x + 10$$

∴

$$3x(x + 10)$$

$$3x^2 + 30x$$

$$3x \cdot x + 30x$$



$$1x^3(x^2 - 2x + 1)$$
$$x^5 - 2x^4 + x^3$$

$$-2x^2(3x^4 + 8x - 9)$$

$$-6x^6 - 16x^3 + 18x^2$$

$$-4x^6(10x^3 + 3x^2 - 7)$$
$$-40x^9 - 12x^8 + 28x^6$$



Find the GCF of 1) 15 and 21

$$15: 1, 3, 5, 15$$

$$21: 1, 3, 7, 21$$

2) 48 and 36

$$12$$

Find the GCF of the terms of each polynomial.

1) $\frac{15w}{3} + \frac{21}{3}$

$$3(5w+7)$$

$$15w+21$$

$$3(5w+7)$$

2) $\frac{6a^2}{2a} + \frac{8a}{2a}$

$$2a(3a+4)$$

3) $36v = 24$

$$36v - 24$$

$$12(3v - 2)$$

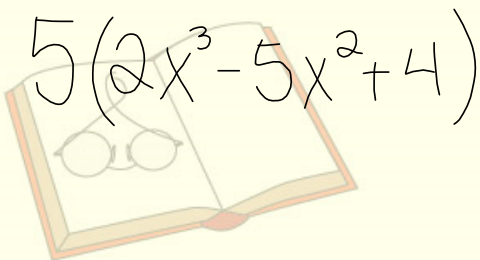
Factor each polynomial.

That means find the *GCF* of the terms and "take it out".

1) $6x - 4$

2) $2v^2 + 4v$

3) $10x^3 - 25x^2 + 20$



$5(2x^3 - 5x^2 + 4)$

Simplify. Write in standard form.

$$4t(3t^2 - 4t) - t(7t)$$

$$12t^3 - 16t^2 - 7t^2$$

$$12t^3 - 23t^2$$



Factor.

$$\frac{9m^{12}}{9m^5} - \frac{36m^7}{9m^5} + \frac{81m^5}{9m^5}$$

$$9m^5(m^7 - 4m^2 + 9)$$



Homework:

p. 501 (1 - 25 odd, 27 - 32 odd, 34 - 39 odd)



