

Math 095--Factor by Grouping--page 4

Factor completely.

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|-----------------------|-----------------------|-----------------------|
| 1. $2x^2 + 5x + 2$ | 2. $2x^2 + 7x + 3$ | 3. $2x^2 + 5x + 3$ |
| 4. $2x^2 + 9x + 4$ | 5. $2x^2 + 7x + 6$ | 6. $3x^2 + 8x + 5$ |
| 7. $3x^2 + 16x + 5$ | 8. $6x^2 + 7x + 1$ | 9. $6x^2 + 5x + 1$ |
| 10. $6x^2 + 11x + 5$ | 11. $6x^2 + 31x + 5$ | 12. $6x^2 + 13x + 5$ |
| 13. $6x^2 + 17x + 5$ | 14. $8x^2 + 73x + 9$ | 15. $8x^2 + 17x + 9$ |
| 16. $8x^2 + 27x + 9$ | 17. $8x^2 + 38x + 9$ | 18. $8x^2 + 22x + 9$ |
| 19. $8x^2 + 18x + 9$ | 20. $5x^2 - 16x + 3$ | 21. $5x^2 - 8x + 3$ |
| 22. $7x^2 - 29x + 4$ | 23. $7x^2 - 11x + 4$ | 24. $7x^2 - 16x + 4$ |
| 25. $3x^2 - 2x - 1$ | 26. $3x^2 - x - 2$ | 27. $3x^2 - 2x - 5$ |
| 28. $3x^2 - 14x - 5$ | 29. $10x^2 - 7x - 3$ | 30. $10x^2 - 13x - 3$ |
| 31. $10x^2 - x - 3$ | 32. $4x^2 - 4x - 15$ | 33. $4x^2 - 28x - 15$ |
| 34. $4x^2 + 11x - 15$ | 35. $4x^2 + 17x - 15$ | 36. $5x^2 + 29x - 6$ |
| 37. $5x^2 + x - 6$ | 38. $5x^2 + 13x - 6$ | 39. $5x^2 + 7x - 6$ |

Factor completely. Remember the GCF first!

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|-----------------------------|--------------------------|-----------------------------|
| 40. $14x^2 + 18x + 4$ | 41. $6x^2 + 27x + 27$ | 42. $12x^2 + 100x + 32$ |
| 43. $15x^2 - 50x + 15$ | 44. $8x^2 - 36x + 40$ | 45. $36x^2 - 102x + 30$ |
| 46. $20x^2 - 90x - 50$ | 47. $14x^2 - 96x - 14$ | 48. $27x^2 - 90x - 72$ |
| 49. $33x^4 - 55x^3 - 22x^2$ | 50. $8x^3 + 76x^2 - 40x$ | 51. $48x^5 + 56x^4 - 40x^3$ |

Math 095--Factor by Grouping--page 5

Answer Key.

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|-----|--|-----|---|-----|---|
| 1. | $(2x+1)(x+2)$ | 2. | $(2x+1)(x+3)$ | 3. | $(2x+3)(x+1)$ |
| 4. | $(2x+1)(x+4)$ | 5. | $(2x+3)(x+2)$ | 6. | $(3x+5)(x+1)$ |
| 7. | $(3x+1)(x+5)$ | 8. | $(6x+1)(x+1)$ | 9. | $(3x+1)(2x+1)$ |
| 10. | $(6x+5)(x+1)$ | 11. | $(6x+1)(x+5)$ | 12. | $(3x+5)(2x+1)$ |
| 13. | $(3x+1)(2x+5)$ | 14. | $(8x+1)(x+9)$ | 15. | $(8x+9)(x+1)$ |
| 16. | $(8x+3)(x+3)$ | 17. | $(4x+1)(2x+9)$ | 18. | $(4x+9)(2x+1)$ |
| 19. | $(4x+3)(2x+3)$ | 20. | $(5x-1)(x-3)$ | 21. | $(5x-3)(x-1)$ |
| 22. | $(7x-1)(x-4)$ | 23. | $(7x-4)(x-1)$ | 24. | $(7x-2)(x-2)$ |
| 25. | $(3x+1)(x-1)$ | 26. | $(3x+2)(x-1)$ | 27. | $(3x-5)(x+1)$ |
| 28. | $(3x+1)(x-5)$ | 29. | $(10x+3)(x-1)$ | 30. | $(5x+1)(2x-3)$ |
| 31. | $(5x-3)(2x+1)$ | 32. | $(2x+3)(2x-5)$ | 33. | $(2x-15)(2x+1)$ |
| 34. | $(4x+15)(x-1)$ | 35. | $(4x-3)(x+5)$ | 36. | $(5x-1)(x+6)$ |
| 37. | $(5x+6)(x-1)$ | 38. | $(5x-2)(x+3)$ | 39. | $(5x-3)(x+2)$ |
| 40. | $2(7x^2 + 9x + 2)$
$2(7x+2)(x+1)$ | 41. | $3(2x^2 + 9x + 9)$
$3(2x+3)(x+3)$ | 42. | $4(3x^2 + 25x + 8)$
$4(3x+1)(x+8)$ |
| 43. | $5(3x^2 - 10x + 3)$
$5(3x-1)(x-3)$ | 44. | $4(2x^2 - 9x + 10)$
$4(2x-5)(x-2)$ | 45. | $6(6x^2 - 17x + 5)$
$6(3x-1)(2x-5)$ |
| 46. | $10(2x^2 - 9x - 5)$
$10(2x+1)(x-5)$ | 47. | $2(7x^2 - 48x - 7)$
$2(7x+1)(x-7)$ | 48. | $9(3x^2 - 10x - 8)$
$9(3x+2)(x-4)$ |
| 49. | $11x^2(3x^2 - 5x - 2)$
$11x^2(3x+1)(x-2)$ | 50. | $4x(2x^2 + 19x - 10)$
$4x(2x-1)(x+10)$ | 51. | $8x^3(6x^2 + 7x - 5)$
$8x^3(3x+5)(2x-1)$ |