

Section 2.3 – Factoring out Monomials

Problem Set 1

Find the greatest common factors of the following pairs of monomials.

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| 1. $11q^4r^2s$ and $-2q^5rs^3$ | 2. $12w^5y^2$ and $-2w^3xy$ | 3. $6w^3x^2$ and $11w^3x^2y^3$ | 4. $-9w^4x$ and $7w^3y$ |
| 5. $-12r^3s^2$ and $3qr^2$ | 6. $-10qr^2s^5$ and $-11qrs^4$ | 7. $-5a^4b^4$ and $4a^3b^4c^3$ | 8. $-q^5rs$ and $-3q^4rs$ |
| 9. $-12x^5$ and $8wy$ | 10. $-6bc^4$ and $-9abc^4$ | 11. $-7r^3s^4$ and $2q^5r^2s^4$ | 12. $-q^5r^5s^2$ and $-12q^3r^3s^2$ |

Factor the following expressions.

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| 13. $-54a^3 + 81a^2 + 90a$ | 14. $60w^{19} + 144w^4 + 12w^{13}x^9 + 132w^{15}$ | 15. $-72q^{15} - 40q^{10}$ |
| 16. $-77a^{17}b^{12}c^2 - 77a^3b^5c^2$ | 17. $-9a^7 - 63a^6 - 45a^5 - 90a^4 - 117a^3 - 27a^2$ | 18. $28b^7 - 154b^6 +$ |
| 19. $13w^8 - 14w^7 + 104w^5 + 143w^4$ | 20. $130w^8 - 104w^7 + 26w^6 + 104w^5 + 143w^4$ | 21. $-3x^7 + 9x^6 + 3x^5 - 6x^4$ |
| 22. $-126x^4 - 112x^3 - 210x^2 - 42x$ | 23. $7w^{13} - 56wx^8 - 42w^6$ | 24. $45w^3x^3y + 75w^2x^3y$ |