

Name: _____ Date: _____

Greatest Common Factor of Algebraic Expressions

Factor out the GCF.

1. $25d^2 - 16c^3d^2$

2. $9p^2q^2 - 36p^3q^4$

3. $7xyz + x^2y - xy^2z^2$

4. $8uv^2w + 64uv - 32u^2v$

5. $2a + abc - a^2$

6. $10k^2 - 5lk + l^2k$

7. $\frac{3}{4}x^3y^2 - \frac{7}{2}x^3y^3 + \frac{1}{2}x^4y$

8. $132pqr - 77qr + 154ps$

9. $12c^2 + 18cd - 6dc^3$

10. $7e^3f + 5ef^3 + e^2f$

11. $24ab - 15ba^3 - 12ab^2$

12. $x^4y^4z^5 + 5x^7y^7z^7$

13. $19g - 38$

14. $32 - 40k$

15. $55pq^2 + 88p^2q$

16. $120 - 15pq$

17. $\frac{1}{2}mn + 8n - \frac{3}{4}n^2$

18. $84h^3 - 7h^4$

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Greatest Common Factor of Algebraic Expressions

Answers

1. $25d^2 - 16c^3d^2$

$$d^2(25 - 16c^3)$$

2. $9p^2q^2 - 36p^3q^4$

$$9p^2q^2(1 - 4pq^2)$$

3. $7xyz + x^2y - xy^2z^2$

$$xy(7z + x - yz^2)$$

4. $8uv^2w + 64uv - 32u^2v$

$$8uv(vw + 8 - 4u)$$

5. $2a + abc - a^2$

$$a(2 + bc - a)$$

6. $10k^2 - 5lk + l^2k$

$$k(10k - 5l + l^2)$$

7. $\frac{3}{4}x^3y^2 - \frac{7}{2}x^3y^3 + \frac{1}{2}x^4y$

$$\frac{1}{2}x^3y\left(\frac{3}{2}y - 7y^2 + x\right)$$

8. $132pqr - 77qr + 154ps$

$$11(12pqr - 7qr + 14ps)$$

9. $12c^2 + 18cd - 6dc^3$

$$6c(2c + 3d - dc^2)$$

10. $7e^3f + 5ef^3 + e^2f$

$$ef(7e^2 + 5f^2 + e)$$

11. $24ab - 15ba^3 - 12ab^2$

$$3ab(8 - 5a^2 - 4b)$$

12. $x^4y^4z^5 + 5x^7y^7z^7$

$$x^4y^4z^5(1 + 5x^3y^3z^2)$$

13. $19g - 38$

$$19(g - 2)$$

14. $32 - 40k$

$$8(4 - 5k)$$

15. $55pq^2 + 88p^2q$

$$11pq(5q + 8p)$$

16. $120 - 15pq$

$$15(8 - pq)$$

17. $\frac{1}{2}mn + 8n - \frac{3}{4}n^2$

$$\frac{1}{2}n\left(m + 16 - \frac{3}{2}n\right)$$

18. $84h^3 - 7h^4$

$$7h^3(12 - h)$$