03B - Practice: Greatest Common Factors and Difference of Two Squares

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1.

A) Divide. $\dfrac{12x^3+18x}{6x}$

B) Factor. $12x^3 + 18x$

2.

A) Divide. $\dfrac{25x^3y+5x^2y}{5x^2y}$

B) Factor. $25x^3y + 5x^2y$

For 3 – 8, factor out the greatest common factor.

3. $15x^2 + 25x$	4. $21x^3 - 14x^4y$
5. $5a^2b^3c - 15a^2b^4 + 10a^3b^3$	6. $18x^2yz^3 - 12x^3y^2z^2$
7. $300x^4y^5 + 500x^3y^7$	8. $36x^2y^6z^3 - 27x^3y^5z^4$

For 9 – 12, factor as a difference of two squares.

9. $x^2 - 49$	10. $9x^2 - 16$
11. $25x^2y^2 - 4z^2$	12. $64y^2z^2 - 9b^2$

For 13 – 18, factor completely.

13. $10x^2 - 160$	14. $3x^3 - 27x$
15. $27x^3y - 12xy^3$	16. $250x^3y - 90xy^3$
17. $32zx^2 - 18zy^2$	18. $75yx^2 - 48y^3$

Answers:

1. A) $2x^2 + 3$ B) $6x(2x^2 + 3)$
2. A) $5x + 1$ B) $5x^2y(5x + 1)$
3. $5x(3x + 5)$
4. $7x^3(3 - 2xy)$
5. $5a^2b^3(c - 3b + 2a)$
6. $6x^2yz^2(3z - 2xy)$
7. $100x^3y^5(3x + 5y^2)$
8. $9x^2y^5z^3(4y - 3xz)$
9. $(x + 7)(x - 7)$
10. $(3x + 4)(3x - 4)$
11. $(5xy - 2z)(5xy + 2z)$
12. $(8yz - 3b)(8yz + 3b)$
13. $10(x + 4)(x - 4)$
14. $3x(x + 3)(x - 3)$
15. $3yx(3x + 2y)(3x - 2y)$
16. $10xy(5x + 3y)(5x - 3y)$
17. $2z(4x + 3y)(4x - 3y)$
18. $3y(5x + 4y)(5x - 4y)$