

1. Find and factor out the greatest common factor.

a) $32cd - 8d$

b) $14a^3b^3 - 21ab^2$

c) $5x^2 - 20x - 10$

d) $16a^8 + 8a^6 - 12a^4$

2. Factor by grouping
 $3x^3 - 6x^2 + 5x - 10$

3. Factor by grouping.
 $3x^3 - 4x^2 + 3x - 4$

4. a) What polynomial is being modeled by the are model at right? Write your answer in standard form.

b) Write the polynomial in factored form.

c) Explain the connection between the model at right and the factored form in part b.

	X	1	1	1
X	X ²	x	x	x
X	X ²	x	x	x
1	X	1	1	1
1	X	1	1	1

Factor completely, if possible. If not possible, write prime.

5. $d^2 - 169$

6. $6x^2 - 3x - 45$

7. $x^2 - 6xy - 16y^2$

8. $x^2 - 6x + 9$

9. $4x^2 - 100y^2$

10. $4b^2 + 4b + 1$

11. $x^2 - 8x + 3$

12. $ax^2 + 14ax + 24a$

13. $6x^2 + x - 12$

14. Write an expression to represent the area of the shaded region. Next simplify the expression and then write it in factored form.

Expression for area of shaded region _____

Simplified expression _____

Expression in factored form. _____

