

Algebra I
Review for Quiz #7
Factoring (11.4-11.6)

Name: _____

Date: _____ Hour: _____

You may use a calculator on the quiz.

Part I. Prime Factorization

A. Complete a *factor tree* for each.

1. 400

2. 625

3. 144

4. 350

B. Write the *prime factorization* of each expression.

1. $2x^2y^3z^2$ _____

2. $3ab^4c^2$ _____

3. $20xy^3$ _____

4. $8ab^2c^2$ _____

Part II. Greatest Common Factor

A. Identify the *greatest common factor* for each pair.

1. $2x^2y^3z^2$ and $20xy^3$ _____

2. $3x^3y^2$ and $9xy^3$ _____

3. $3ab^4c^2$ and $8ab^2c^2$ _____

4. $45b^2$ and $50b^3$ _____

B. Identify each polynomial as *prime* or *composite*.

1. $2x^2 + 2y^3 + 2z^2$ _____

2. $3x^3y^2 - 9wz^3$ _____

3. $3ab^4 + 8c^2 + 7d$ _____

4. $45b^3 - 50b^2 + 5$ _____

C. Factor using the *greatest common monomial*.

1. $2x^2y^3 + 20xy^3$ _____

2. $3x^3y^2 - 9xy^3 + 12xy^2$ _____

3. $ab^4c^2 - ab^2c^2$ _____

4. $25b^3 + 50b^2 + 5b$ _____

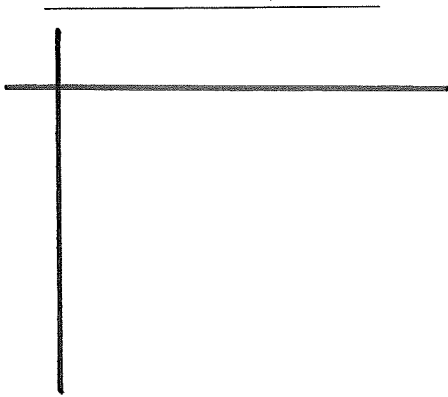
5. $15y^3z^2 + 20y^3z$ _____

6. $3xy^2 + 9xy^3 - 3x$ _____

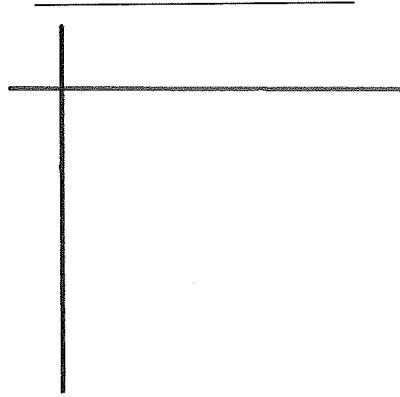
Part III. Algebra Tiles

Use algebra tiles to factor. Draw a sketch of your product and factors. Label your tiles.

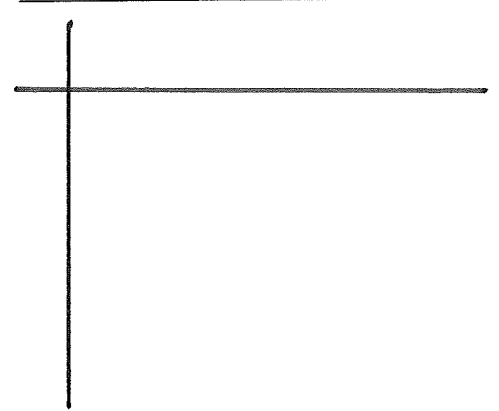
1. $2x^2 + 5x + 2$



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



3. $3x^2 + 7x + 2$



Part IV. Factoring

Completely factor each polynomial, if possible. If factoring is not possible, write "*prime.*" (hint: 7 are prime)

1. $3x^4 - 6x^3 + 3x^2$ _____

16. $d^2 - 64$ _____

2. $x^2 + 3x - 4$ _____

17. $9x^2 - 36$ _____

3. $b^2 + 25$ _____

18. $x^2 + 4x - 32$ _____

4. $6x^2 - 12x + 6$ _____

19. $10x^2 + 40x + 40$ _____

5. $4x^2 - 19y$ _____

20. $a^2 + 1$ _____

6. $c^2 - 100$ _____

21. $x^2y - 25y$ _____

7. $5x^3 + 5x^2 - 10x$ _____

22. $2x^2 - 3$ _____

8. $w^2 - 5w - 36$ _____

23. $d^2 + d - 12$ _____

9. $2x^2 - 12x + 16$ _____

24. $x^2 - 12x + 36$ _____

10. $x^2 - 3x + 13$ _____

25. $w^2 - 36$ _____

11. $k^2 - 4$ _____

26. $x^2 + 2x - 35$ _____

12. $2x^2 - 14x + 20$ _____

27. $y^2 + 8y + 16$ _____

13. $c^2 - 5c + 6$ _____

28. $x^2 + 6x + 14$ _____

14. $a^2 - 6a - 7$ _____

29. $5a^2b^2 - 45b^2$ _____

15. $x^2 - 6x - 8$ _____

30. $r^2 - 18r + 81$ _____