

Factoring Practice (no calculators)

A.M.D.G.

1) $\frac{152}{74} =$

2) $\frac{1068}{366} =$

Factor each of the following:

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

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

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

6. $x^2 + x - 20$

7. $x^2 + 8x - 20$

8. $2x^2 + 5x + 2$

9. $2x^2 + 7x - 15$

10. $9x^2 - 6x + 1$

11. $y^2 - 12y + 32$

12. $x^2y + 17xy + 30y$

13. $m^5 - 16m$

14. $8a^3 - y^6$

15. $y^2n - 12yn - 28n$

16. $y^3 - 16y^2 - 4y + 64$

17. $x^4 + 19x^3 - 42x^2$

18. $4x^2 + 16x + 15$

Solve each of the following for x . Note that you should show the factoring step, then set each factor to zero to solve.

19. $x^3 - 17x^2 + 70x = 0$

20. $x^3 - 16x^2 = 0$

21. $x^3 - 16x = 0$

22. $y^3 - 9y^2 + 4y - 36 = 0$

Factor and simplify each rational expression

21) $\frac{x^4 - 16}{x^2 - 2x + 4} \div \frac{x^2 + 4}{x^3 + 8}$

$$22) \frac{4x^2 + 4x - 3}{3x^2 + 13x - 10} \div \frac{2x - 1}{3x - 2}$$

$$23) \frac{4x^2 - 19x - 5}{2x^2 + 3x - 20} \cdot \frac{x + 4}{x^2 - 3x - 10}$$