

Review of Factoring before Rational Functions

We will work the evens. If you make a grade below an 85, you have to work the odds too.

Factor out the common factor.

1) $5x - 15$

2) $5x^3 - 20x$

3) $yz^3 - 3yz^2 + 2yz$

4) $2x(x + 3) - 5(x + 3)$

Factor the difference of two squares.

5) $z^2 - 49$

6) $9y^2 - 16$

7) $64 - 25y^2$

8) $16 - (x + 2)^2$

Factor the perfect square trinomial.

9) $y^2 + 8y + 16$

10) $36y^2 + 12y + 10$

11) $4z^2 - 4z + 1$

12) $9z^2 - 24z + 16$

Factor the sum or difference of cubes.

13) $y^3 - 8$

14) $z^3 + 64$

15) $27y^3 - 8$

16) $64z^3 + 27$

17) $1 - x^3$

18) $27 - y^3$

Factor the trinomial.

19) $x^2 + 9x + 14$

20) $y^2 - 11y + 30$

21) $z^2 - 5z - 24$

22) $6t^2 + 5t + 1$

23) $14u^2 - 33u - 5$

24) $10v^2 + 23v + 12$

25) $12x^2 + 11x - 15$

26) $2x^2 - 3xy + y^2$

27) $6x^2 + 11xy - 10y^2$

28) $15x^2 + 29xy - 14y^2$

Factor by grouping.

29) $x^3 - 4x^2 + 5x - 20$

30) $2x^3 - 3x^2 + 2x - 3$

31) $x^6 - 3x^4 + x^2 - 3$

32) $x^6 + 2x^4 + x^2 + 2$

33) $2ac + 6ad - bc - 3bd$

34) $3uw + 12uz - 2vw - 8vz$

Factor completely.

35) $x^3 + x$

36) $4y^3 - 20y^2 + 25y$

37) $18y^3 + 48y^2 + 32y$

38) $2x^3 - 16x^2 + 14x$

39) $16y - y^3$

40) $3x^4 + 24x$

41) $5y + 3y^2 - 2y^3$

42) $z - 8z^4$

43) $2(5x + 1)^2 - 18$

44) $5(2x - 3)^2 - 20$

45) $12x^2 + 22x - 20$

46) $3x^2 + 13xy - 10y^2$

47) $2ac - 2bd + 4ad - bc$

48) $6ac - 2bd + 4bc - 3ad$

49) $x^3 - 3x^2 - 4x + 12$

50) $x^4 - 4x^3 - x^2 + 4x$

Please keep in mind that in order to be successful with Rational Functions, you MUST be good at factoring. The more of these you work w/out assistance from fellow humans and/or anything from your electronic devices, the better you will be at factoring. Factoring is not going away; you'll see it again next year. :)

51)