

Honors Math 3

Unit 5 – Intro to Rational Expressions Homework

Please do your work on a separate sheet of paper. You must show ALL work and attempt ALL problems to receive full credit. Please check your answers BEFORE class!

p.213: 1-19 odd

Simplify. Assume that no denominator equals 0.

$$1. \frac{18x^3}{6x} = 3x^2$$

$$2. \frac{5r^3}{15r^5} = \frac{1}{3t^2}$$

$$3. \frac{-12p^3q}{4p^2q^2} = -\frac{3p}{q}$$

$$4. \frac{30x^2y^3}{-6x^3y^2} = \frac{5y}{x}$$

$$5. \frac{-15u^5v^3}{-25u^4v^2} = \frac{3uv}{5}$$

$$6. \frac{48x^5y^5}{32x^4y^6} = \frac{3x}{2y}$$

$$7. \left(\frac{3r}{s^2}\right)^3 = \frac{27r^3}{s^6}$$

$$8. \left(\frac{2x^2}{-y}\right)^4 = \frac{16x^8}{y^4}$$

$$9. \frac{3s}{t^2} \cdot \frac{s^2}{t} = \frac{3s^3}{t^3}$$

$$10. \frac{2u}{v^2} \cdot \frac{3u}{2v^2} = \frac{3u^2}{v^4}$$

$$11. \frac{3x^2}{y^2} \cdot \frac{3y}{6x} = \frac{3x}{2y}$$

$$12. \frac{xy^2}{2} \cdot \frac{6x}{y^2} = 3x^2$$

$$13. \frac{rs^2t^3}{r^3s^2t} = \frac{t^2}{r^2}$$

$$14. \frac{a^2b^3c}{a^3bc^2} = \frac{b^2}{ac}$$

$$15. \frac{u^2}{v} \left(\frac{3v}{u^2}\right)^2 = \frac{9v}{u^2}$$

$$16. \frac{2x^2}{y^3} \left(\frac{-y^3}{2x^2}\right)^2 = \frac{y^3}{2x^2}$$

$$17. \frac{(4r^2s^2)^2}{(4r^2s)^2} = s^2$$

$$18. \frac{(2hk^3)^3}{(-h^2k^2)^2} = \frac{8k^5}{h}$$

$$19. \frac{(xyz^2)^2}{(x^2yz)^2} = \frac{z^2}{x^2}$$

$$20. \frac{(pq^2r^3)^3}{(p^3qr^2)^2} = \frac{q^4r^5}{p^3}$$

p.214: 25-29 odd

In Exercises 25–30, assume that no denominator equals 0 and that m and n are integers greater than 1.

$$25. \frac{a^{2m}b^{2m+1}}{(a^2b^2)^m} = b$$

$$26. \frac{x^{n+1}y^n}{x^n y^{n-1}} = xy$$

$$27. \frac{(pq)^n}{pq^n} = p^{n-1}$$

$$28. \frac{(z^n)^3}{z^n z^3} = z^{2n-3}$$

$$29. \frac{t^{n+1}t^{n-1}}{t^n} = t^n$$

$$30. \frac{a^{n-1}b^{2n}}{a^{n+1}(b^2)^{n-1}} = \frac{b^2}{a^2}$$