A3 Notes

Wednesday, January 28, 2015
9:35 AM

Precalculus

A3 Notes – Reviewing Fractions

Write in reduced form.

1. $\frac{18x^3y}{15xy^4} = \frac{6x^2}{5y^3}$

2. $\frac{x^3}{x^2-2x} = \frac{x^3}{x(x-2)} = \boxed{\frac{x^2}{x-2}}$

3. $\frac{z^2-3z}{9-z^2} = \frac{z(z-3)}{(3+z)(3-z)} = \frac{-z(3-z)}{(3+z)(3-z)} = \boxed{\frac{-z}{3+z}}$

Simplify.

4. $\frac{x+3}{x-1} \bullet \frac{1-x}{x^2-9} = \frac{x+3}{x-1} \cdot \frac{-(x-1)}{(x+3)(x-3)} = \boxed{\frac{-1}{x-3}}$

5. $\frac{2y^2+9y-5}{y^2-25} \bullet \frac{y-5}{2y^2-y} = \frac{(2y-1)(y+5)}{(y+5)(y-5)} \cdot \frac{y-5}{y(2y-1)} = \boxed{\frac{1}{y}}$

6. $\frac{1}{2x} \div \frac{1}{4} = \frac{1}{2x} \cdot \frac{4}{1} = \boxed{\frac{2}{x}}$

7. $\frac{\frac{2x^2y}{(x-3)^2}}{\frac{8xy}{x-3}} = \frac{2x^2y}{(x-3)^2} \cdot \frac{x-3}{8xy} = \frac{x}{4(x-3)} = \boxed{\frac{x}{4x-12}}$

LCD

8. $\frac{\frac{x}{x-y} - \frac{y}{x+y}}{}$ $\frac{(x+y)}{(x+y)}$ $\frac{(x-y)}{(x-y)}$

$= \frac{x^2+xy}{(x+y)(x-y)} - \frac{xy-y^2}{(x+y)(x-y)} = \boxed{\frac{x^2+y^2}{x^2-y^2}}$

COMPOUND FRACTIONS ① LCD ② Multiply by Recip

9. $\frac{\frac{x}{y^2} - \frac{y}{x^2}}{\frac{1}{y^2} - \frac{1}{x^2}}$ $\frac{x^2}{x^2}$ $\frac{y^2}{y^2}$

$= \frac{x^3-y^3}{x^2y^2} \cdot \frac{x^2y^2}{x^2-y^2} = \frac{x^3-y^3}{x^2-y^2}$

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

$x^2 - y^2$

$\frac{}{x^2y^2}$

$= \frac{x^3-y^3}{x^2-y^2} = \frac{(x-y)(x^2+2xy+y^2)}{(x-y)(x+y)}$

10. $\frac{2x+\frac{13x-3}{x-4}}{2x+\frac{x+3}{x-4}} = \frac{\frac{2x(x-4)+13x-3}{x-4}}{\frac{2x(x-4)+x+3}{x-4}}$

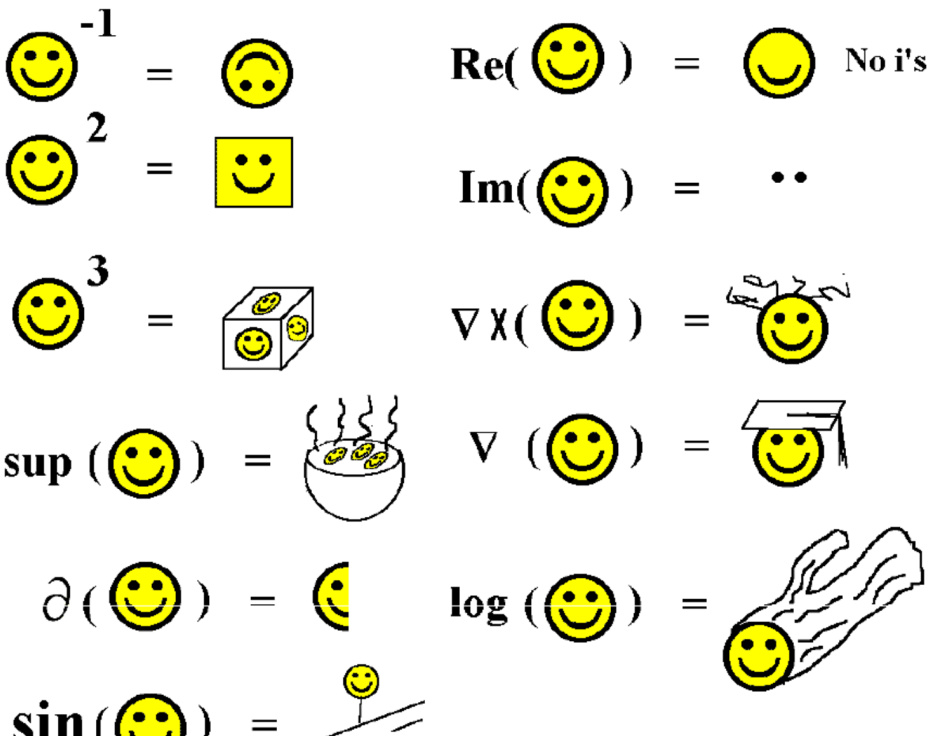
$= \frac{2x^2-8x+13x-3}{2x^2-8x+x+3} = \frac{2x^2+5x-3}{2x^2-7x+3}$

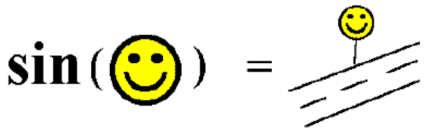
$= \frac{(2x-1)(x+3)}{(2x-1)(x-3)} = \frac{x+3}{x-3}$

11. $\frac{\frac{b}{b}\left(\frac{b}{a}-\frac{a}{b}\right)\frac{a}{a}}{\frac{b}{b}\left(\frac{1}{a}-\frac{1}{b}\right)\frac{a}{a}} = \frac{\frac{b^2-a^2}{ab}}{\frac{b-a}{ab}}$

$= \frac{b^2-a^2}{b-a} = \frac{(b+a)(b-a)}{b-a} = b+a$

Happy Face Math





Happy Face Math by Charlie Smith