Homework #10

Simplify

1. $\frac{x}{2} \times \frac{x}{3}$

2. $\frac{x}{2} + \frac{x}{3}$

3. $\frac{x}{2} \div \frac{x}{3}$

4. $\frac{x}{2} - \frac{x}{3}$

5. $\frac{x}{3} \times \frac{y}{5}$

6. $\frac{x^2}{2} \times \frac{6}{x}$

7. $\frac{x}{8} + \frac{x}{2}$

8. $\frac{x}{2} \div 5$

9. $\frac{x}{4} - \frac{x}{3}$

10. $8x \times \frac{x}{2}$

11. $\frac{x}{7} + 2x$

12. $\frac{x}{5} + \frac{3x+1}{2}$

13. $(x + 8) \div \frac{x}{2}$

14. $\frac{5}{x} + \frac{3}{x}$

15. $\frac{2}{x} + \frac{3}{2x}$

16. $\frac{8x+8}{3} - \frac{2x+5}{3}$

Answers: Homework #10

"Simplify" means simplify fully, so **all** possible cancellations must be made

There is no point changing from fraction to decimal form: e.g. leave as $\frac{x}{10}$ *rather than 0.1x*

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

2. $\frac{x}{2} + \frac{x}{3} = \frac{3x}{6} + \frac{2x}{6} = \frac{5x}{6}$

3. $\frac{x}{2} \div \frac{x}{3} = \frac{x}{2} \times \frac{3}{x} = \frac{3x}{2x} = 1.5$

4. $\frac{x}{2} - \frac{x}{3} = \frac{3x}{6} - \frac{2x}{6} = \frac{x}{6}$

5. $\frac{x}{3} \times \frac{y}{5} = \frac{xy}{15}$

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

7. $\frac{x}{8} + \frac{x}{2} = \frac{x}{8} + \frac{4x}{8} = \frac{5x}{8}$

8. $\frac{x}{2} \div 5 = \frac{x}{2} \times \frac{1}{5} = \frac{x}{10}$

9. $\frac{x}{4} - \frac{x}{3} = \frac{3x}{12} - \frac{4x}{12} = \frac{-x}{12}$

10. $8x \times \frac{x}{2} = \frac{8x^2}{2} = 4x^2$

11. $\frac{x}{7} + 2x = \frac{x}{7} + \frac{14x}{7} = \frac{15x}{7}$

12. $\frac{x}{5} + \frac{3x+1}{2} = \frac{2x}{10} + \frac{15x+5}{10} = \frac{17x+5}{10}$

13. $(x + 8) \div \frac{x}{2} = \frac{x+8}{1} \times \frac{2}{x} = \frac{2x+16}{x}$ or $2 + \frac{16}{x}$

14. $\frac{5}{x} + \frac{3}{x} = \frac{8}{x}$

15. $\frac{2}{x} + \frac{3}{2x} = \frac{4}{2x} + \frac{3}{2x} = \frac{7}{2x}$

16. $\frac{8x+8}{3} - \frac{2x+5}{3} = \frac{8x+8}{3} + \frac{-2x-5}{3} = \frac{6x+3}{3} = 2x + 1$