

Show all of your work.

1. Adding and subtracting fractions.

(a) $\frac{5}{6} - \frac{3}{8}$

(b) $\frac{8}{5} + \frac{3}{2}$

(c) $\frac{3}{4} + \frac{2}{5} - \frac{1}{2}$

2. Expand and simplify.

(a) $(4x^2)(-3x^5)$

(b) $(21w^7) \div (-3w^3)$

(c) $2x^2(3x^3 - 5x^2 + x + 9)$

(d) $x^2y(3xy - 4y^2)$

(e) $(x - 2)(x + 7)$

3. Solving equations.

(a) $-2 [2x - 3(3x + 1)] = 20$

(b) $4 [3 + 2(3x - 1)] - [8x - 3(x - 2)] = 9x + 8$

(c) $\frac{1}{4}(x - 2) = \frac{1}{3}(2x + 1)$

(d) $\frac{2}{3}(2x + 1) = \frac{5}{6}(x + 5)$

4. Find the equation of the line with the two given points.

(a) $(1, -4)$ and $(3, 10)$.

(b) $(6, -1)$ and $(3, 5)$.

(c) $(-2, 5)$ and $(1, -3)$.

5. Find the equation of the line that is...

(a) parallel to $y = -2x - 7$ and has the point $(3, 2)$ on it.

(b) perpendicular to $y = \frac{3}{5}x + 2$ and has the point $(4, -2)$ on it.

(c) perpendicular to $y = -\frac{1}{2}x + 5$ and has the same x intercept as $y = 3x - 9$.