5.3 Scavenger Hunt!

1. $y = kx$ $\quad 18 = 12k$ $\quad k = 3/2$ $\quad y = \frac{3}{2}x$ Answer: L

12. $\frac{8x-3}{x+8} + \frac{-9x+5}{x+8} = \frac{-1x+2}{x+8}$ Answer: H

8. $\frac{3x+9}{x^2-9} = \frac{3(x+3)}{(x+3)(x-3)}$ $\quad x \neq \pm 3$ Answer: C

3. $y = \frac{k}{x}$ $\quad 50 = \frac{k}{1.5}$ $\quad K = 75$ $\quad y = \frac{75}{x}$ Answer: I

9. $\frac{2x(x-8)(x+4)}{(x+5)(x+4)(3x^2)} \div \frac{2x(x-8)}{3x^2(x+5)} = \frac{2(x-8)}{3x(x+5)}$ Answer: O

15. -30, -13, 2

$6x^2 - 15x + 2x - 5$

$3x(2x-5) + 1(2x-5)$

$(3x+1)(2x-5)$

$\frac{(3x+1)(2x-5)}{2x-5} = \boxed{3x+1}$ Answer: B

2. $y = kx$ $\quad 20 = 24k$ $\quad k = 5/6$ $\quad y = \frac{5}{6}x$ Answer: E

5. $\frac{5x+4}{3x(5x+4)} = \frac{1}{3x}$ Answer: G

7. $\frac{x+4}{(x+4)(x+2)}$ $x \neq -4, -2$ Answer: J

10. $\frac{(x+8)(x-3)}{(x-4)(x+2)} \cdot \frac{2(x+2)}{4x(x+8)} = \frac{2(x-3)}{4x(x-4)} = \frac{x-3}{2x(x-4)}$ Answer: M

13. $\frac{(x+3)(x-2)}{(x+1)(x-2)} + \frac{(2x-5)(x+1)}{(x+1)(x-2)} = \frac{x^2+x-6+2x^2+2x-5x-5}{(x+1)(x-2)}$

$= \frac{3x^2-2x-11}{(x+1)(x-2)}$ Answer: K

11. $\frac{(2x-1)(7)}{7(x-7)} + \frac{(3x+5)(x-7)}{7(x-7)} = \frac{14x-7+3x^2-21x+5x-35}{7(x-7)}$

$= \frac{3x^2-2x-42}{7(x-7)}$ Answer: F

16. $\frac{(x+8)(x-4)}{x(x^2+9x+8)} = \frac{(x+8)(x-4)}{x(x+8)(x+1)} = \frac{x-4}{x(x+1)}$ Answer: N

14. $\frac{(x-2)(x+4)}{(x+3)(x-3)(x+4)} + \frac{(-x-5)(x^2-9)}{(x+3)(x-3)(x+4)} = \frac{x^2+2x-8-x^3-5x^2+9x+45}{(x+3)(x-3)(x+4)}$

$= \frac{-x^3-4x^2+11x+37}{(x+3)(x-3)(x+4)}$ Answer: D

4. $y = \frac{k}{x}$ $\frac{2}{5} = \frac{k}{65}$ $130 = 5k$ $k = 26$ $y = \frac{26}{x}$ Answer: A