Unit 5: Rational Expressions

Review Scavenger Hunt

Go to a station, solve the question, and then check your answer! It's as easy as pi ☺

Can you figure out my favorite TV show as a kid? Go through the scavenger hunt in order to earn clues to help figure out the riddle. In order to receive full credit, you must SHOW ALL YOUR WORK! Have fun and good luck!

I	C	H	O	O	S	E		y	O	u
-4	1/2	0	1	1	8/x	-10		3(x-5)	1	(x-2)/x

P	I	K	A	C	H	u	!	A	S	H
(x-5)	-4	3	12/5	1/2	0	(x-2)/x		12/5	8/x	0

F	R	O	M							
-(x-4)	-1	1	15/8							

P	O	K	E	M	O	N
(x-5)	1	3	-10	15/8	1	(x+4)/(x+2)

1. $\frac{1}{3k+5} = \frac{1}{k+5} - \frac{k-1}{(3k+5)(k+5)}$

75, 15, 5, 20

$(3k^2+15k)(5k+25)$

$3k(k+5)\,5(k+5)$

$k=-1$

$k+5 = 3k+5-(k-1)k$

$k+5 = 3k+5-k+1$

$k+5 = 2k+6$

$-1=k$

(R)

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

HA: $y=0$

(H)

13. $\frac{6+\frac{2}{x}}{\frac{3x+1}{4}} = \frac{\frac{6x+2}{x}}{\frac{3(x+1)}{4}} = \frac{\frac{2(3x+1)}{x}}{\frac{3x+1}{4}}$

$\frac{2(3x+1)}{x} \cdot \frac{4}{3x+1} = \frac{8}{x}$

(S)

6. $\frac{(x+2)(x^2+2x+1+1)}{x(x^3+2x+4)} = \frac{x-2}{x}$

$\frac{(x-2)(x^2+2x+4)}{x(x+$

(U)

15. $\frac{x+3}{2x-3} = \frac{18x}{(2x+3)(2x-3)}$

$(x+3)(2x+3) = 18x$

$2x^2+9x+9 = 18x$

$2x^2-9x+9=0$

18, -6, -3, -9

$(2x^2-6x)(-3x+9)$

$2x(x-3)-3(x-3)$

$2x-3=0$

~~$x=3/2$~~

$x-3=6$

$x=3$

(K)

14. $\frac{x}{3}+\frac{x}{5}=1$

$5x+3x=15$

$8x=15$

$x=1.875$ hrs

(M)

8. $\frac{(x-4)(x+4)(x+10)(x-9)}{-1(x-9)(x+10)(x+4)}$

$= -1(x-4)$

(F)

2. $(3x^2-12x)+(2x-8)$

$3x(x-4)+2(x-4)$

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

VA: $x=-4$

(I)

10. $\frac{3(x+2)}{x+5} \cdot \frac{(x+5)(x-5)}{(x+2)}$

$3(x-5)$

(4)

4. $\frac{x}{4} + \frac{x}{6} = 1$

$6x + 4x = 24$ or 12/5

$10x = 24$

$x = 24/10 = 2.4$

(A)

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

$(x+2)(x-3) = (x-1)(x-3) - (4x+2)$

$x^2-x-6 = x^2-4x+3-4x-2$

$x^2-x-6 = x^2-8x+1$

$7x = 7$

$x = 1$

(D)

12. $\frac{(v+10)(v-3)}{9v(v+10)} = \frac{v-3}{9v}$

P.O.D. $v=-10$

(E)

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

$\frac{x+4}{x-2}$

(N)

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

$x \neq -3$

$x = +1/2$

$(2x^2+6x)+(-1x-3)$

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

-6, 6, -1, 5

(C)

11. $(x^3-5x^2)+(-x+5)$

$x^2(x-5)-1(x-5)$

$\frac{(x^2-1)(x-5)}{(x^2-1)} = x-5$

(P)