Regents Exam Questions A.APR.D.7: Addition and Subtraction of Rationals 3 www.jmap.org

A.APR.D.7: Addition and Subtraction of Rationals 3

1 Which expression is equivalent to $\frac{x^3}{x+3} - \frac{9x}{x+3}$?

1)
$$\frac{-9x}{x+3}$$
 2) $\frac{x}{x+3}$ 3) $\frac{x^2}{x+3}$ 4) $x(x-3)$

- 2 For all values of b for which the expressions are defined, $\frac{b^2}{b-3} + \frac{9}{3-b}$ is equivalent to 1) -1 2) $\frac{1}{3-b}$ 3) b-3 4) b+3
- 3 Expressed in simplest form, $\frac{5x+3}{x} \frac{x-1}{2x}$ is 1) $\frac{4x+4}{3x}$ 2) $\frac{2x+2}{x}$ 3) $\frac{9x+7}{2x}$ 4) $\frac{9x-5}{2x}$
- 4 Expressed as a single fraction, $\frac{3}{x-1} \frac{2}{x}$ is equivalent to
 - 1) $\frac{1}{x(x-1)}$ 2) $\frac{x-2}{x(x-1)}$ 3) $\frac{x+2}{x(x-1)}$ 4) $\frac{3x-2}{x(x-1)}$
- 5 Expressed as a single fraction, $\frac{5}{x-3} \frac{1}{x}$ is equivalent to

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

- 6 The expression $\frac{x}{x-1} + \frac{x}{x+1}$ is equivalent to $2x = 2x^2$
 - 1) 1 2) $\frac{2x}{x^2-1}$ 3) -2 4) $\frac{2x^2}{x^2-1}$
- 7 The reciprocal of the expression $\frac{2}{x} + \frac{3}{1}$ is 1) $\frac{2+3x}{x} = 2$ $\frac{x}{x} = 2$ 2x + 2 4x + 2 + 2
 - 1) $\frac{2+3x}{x}$ 2) $\frac{x}{2+3x}$ 3) 2x+3 4) 2+3x

- 8 If the probability that an event will occur is $\frac{x}{y}$, then the probability that the event will *not* occur is 1) $-\frac{x}{y}$ 2) $-\frac{y}{x}$ 3) $\frac{1-x}{y}$ 4) $\frac{y-x}{y}$
- 9 If the probability that an event will *not* occur is $\frac{1}{x^2}$, then the probability that the event will occur is represented by
 - 1) -1 2) 0 3) x^2 4) $\frac{x^2-1}{x^2}$
- 10 If the probability that an event will occur is $\frac{1}{x+1}$, then the probability that the event will *not* occur is 1) x+1 2) $-\frac{1}{x+1}$ 3) $\frac{x}{x+1}$ 4) $-\frac{x}{x+1}$
- 11 Express $\frac{1}{2x} \frac{3}{14x}$ as a single fraction in lowest terms.
- 12 Express in simplest form: $\frac{3a+1}{a^2-1} \frac{1}{a+1}$
- 13 Express in simplest form: $\frac{3y+15}{25-y^2} + \frac{2}{y-5}$
- 14 Simplify: $\frac{a-1}{1-a} + \frac{1-b}{b-1}$
- 15 Simplify: $\frac{m}{mn-n^2} \frac{1}{m-n} \frac{1}{n}$
- 16 Simplify: $\frac{a+2}{a^2-5a+6} + \frac{a+2}{a^2-7a+12} + \frac{1}{a^2-6a+8}$

Name: _____

A.APR.D.7: Addition and Subtraction of Rationals 3 Answer Section

1	ANS:	4	REF:	010218siii
2	ANS:	4	REF:	088931siii
3	ANS:	3	REF:	010118siii
4	ANS:	3	REF:	018734siii
5	ANS:	2	REF:	089919siii
6	ANS:	4	REF:	068421b
7	ANS:	2	REF:	060327siii
8	ANS:	4	REF:	088619siii
9	ANS:	4	REF:	088523siii
10	ANS:	3	REF:	068522siii
11	ANS:			
	2			
	7x			
	DEE.	060700-:::		
12	ANS.	008/08511		
12	7 ANS.			
	$\frac{2}{a-1}$			
	. 1			
	REF:	018439siii		
13	ANS:			
	_1			
	5-y			
	DEE	0.0740		
14	KEF:	069740s111		
14	ANS: _2			
	2			
	REF:	119403al		
15	ANS:			
	0			
	DEE	010102 1		
17	KEF:	019103al		
10	ANS: 24	+ 5		
	$\frac{2a}{(a-2)}$	$\frac{1}{(a-4)}$		
	(4 2			
	REF:	090501al		