Activity 33

Name: _____

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

Simplify.

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

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

$\frac{3(x+5)}{(x+1)(x+5)}$

$\frac{2x+6}{4x-8}$

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

$\frac{5x-10}{5x}$

$\frac{(x+7)}{(x+2)(x+7)}$

$\frac{x^2-5x}{3x-15}$

$\frac{2x^2-8x}{x^2+4x}$

$\frac{x^2-9}{x+3}$

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

$\frac{3x^2-12x}{3x^2+12x}$

$\frac{5x^2-x}{25x^2-5x}$

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

$\frac{6x^2-12x}{10x^3-20x^2}$

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◆ BOOKS NEVER WRITTEN ◆

Everybody Needs Insurance by

	9	3	12	1	8	11	6	2	12	10

Rock 'n Roll Your Baby by

5	10	12	7	2	11	6	10	

50 Years in the Navy by

8	8	12	10	4	4	

ABOVE ARE THE TITLES OF THREE "BOOKS NEVER WRITTEN." TO DECODE THE NAMES OF THEIR AUTHORS:

Simplify each expression below. Find your answer and notice the letter next to it. Each time the exercise number appears in the code, write this letter above it.

(1) $\dfrac{2x^2 - 18}{4x + 12}$

(2) $\dfrac{3x^2 - 24x + 36}{2x^2 - x - 6}$

(3) $\dfrac{5x^2 - 25x}{3x^3 - 75x}$

(4) $\dfrac{x^2 + 5x - 24}{3 - x}$

(5) $\dfrac{-x^2 + 8x - 16}{x^3 - 4x^2}$

(6) $\dfrac{49x - x^3}{7 - 6x - x^2}$

(7) $\dfrac{a^2 + 11ab + 18b^2}{a^2b + 9ab^2}$

(8) $\dfrac{15a^5b(5 - a)}{6a^2b^3(a - 5)}$

(9) $\dfrac{4a^3b^4(a^2 + a - 42)}{28a^4b^4(6 - a)}$

(10) $\dfrac{a^4 - 8a^3b}{a^3 - 64ab^2}$

(11) $\dfrac{4a^2 + 8ab - 12b^2}{6a^2 - 12ab + 6b^2}$

(12) $\dfrac{10a^3b + 10a^2b}{4a^2b^3 + 2ab^3}$

Answers for exercises 1–6:

(W) $-\dfrac{x - 4}{x - 1}$

(U) $\dfrac{5}{3(x + 5)}$

(T) $\dfrac{x - 3}{2}$

(C) $\dfrac{x(x - 7)}{x - 1}$

(A) $\dfrac{3(x - 6)}{2x + 3}$

(R) $-(x + 8)$

(M) $\dfrac{x(x - 7)}{x + 2}$

(L) $-\dfrac{x - 4}{x^2}$

Answers for exercises 7–12:

(J) $-\dfrac{a + 7}{7a}$

(P) $\dfrac{2(a - 3b)}{3(a + b)}$

(I) $-\dfrac{5a^3}{2b^2}$

(E) $\dfrac{a^2}{a + 8b}$

(N) $\dfrac{2(a + 3b)}{3(a - b)}$

(D) $\dfrac{a + 2b}{ab}$

(S) $\dfrac{5a(a + 1)}{b^2(2a + 1)}$

(B) $-\dfrac{a - 7}{7ab}$

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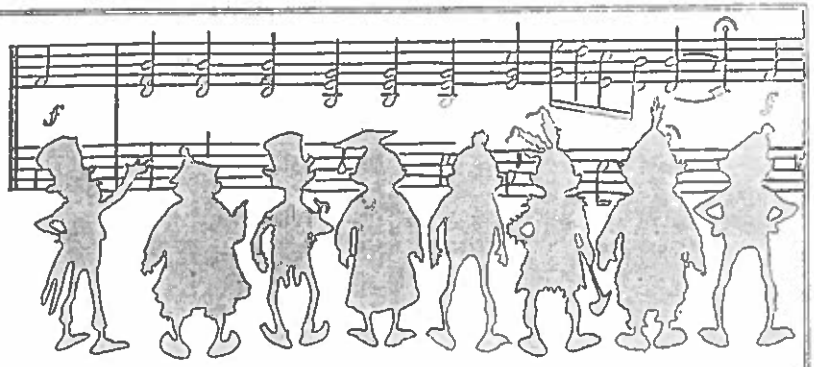
OBJECTIVE 5–d: To simplify algebraic fractions (review of preceding three pages).

What Do You Call an Insect That Plays Drums?

Simplify each expression. Find your answer below and print the letter of that exercise above it.



(T) $\dfrac{6a^5b^4}{9a^3b^7}$

(C) $\dfrac{12a^5b^3(3-b)}{4a^4b(b^2+b-12)}$

(C) $\dfrac{15a^2b^6}{25a^7b}$

(I) $\dfrac{6a^2-30a+36}{4a-12}$

(I) $\dfrac{a^5b^2(a^2+7a+10)}{a^2b^4(a+5)}$

(Y) $\dfrac{a^3-49a}{a^3+7a^2}$

(T) $\dfrac{a^2b-7a^2}{a^5}$

(H) $\dfrac{3ab^3(a-1)}{6a^4b^4(1-a)}$

(K) $\dfrac{2a^2b^2+4ab^2}{a^4b+4a^3b}$

(H) $\dfrac{8a^2b-8b^3}{6a^2b+12ab^2+6b^3}$

(A) $\dfrac{ab^6(a^2-2a-15)}{a^7b^5(5-a)}$

(M) $\dfrac{3a^3(16-a^2)}{12a^6(a^2-9a+20)}$

(R) $\dfrac{(b-5)^3}{15+7b-2b^2}$

$-\dfrac{b(a+3)}{a^6}$	$-\dfrac{a-4}{4a^2(a+5)}$	$-\dfrac{(b-5)^2}{2b+3}$	$-\dfrac{1}{2a^3b}$	$\dfrac{a-7}{a}$	$\dfrac{2a^2}{3b^3}$	$\dfrac{4(a-b)}{3(a+b)}$	$-\dfrac{a+4}{4a^3(a-5)}$	$\dfrac{a^3(a+2)}{b^2}$	$-\dfrac{3ab^2}{b+4}$	$\dfrac{4(a+b)}{3(2a-b)}$	$\dfrac{b-7}{a^3}$	$\dfrac{3(a-2)}{2}$	$\dfrac{3b^5}{5a^5}$	$\dfrac{2b(a+2)}{a^2(a+4)}$

OBJECTIVE 5–c: To simplify algebraic fractions (numerator and denominator contain monomial factors).

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