Lesson 12-2: Simplifying Rational Expressions

Part 1: Simplifying Rational Expressions

1. 010109a, P.I. A.A.14

   If $x \neq 0$, the expression $\frac{x^2+2x}{x}$ is equivalent to

   [A] 2 [B] 4 [C] $x + 2$ [D] $3x$

2. 060102a, P.I. A.A.14

   Which polynomial is the quotient of $\frac{6x^3+9x^2+3x}{3x}$?

   [A] $2x+3$ [B] $2x^2+3x+1$

   [C] $6x^2+9x$ [D] $2x^2+3x$

3. fall0718ia, P.I. A.A.14

   The expression $\frac{9x^4-27x^6}{3x^3}$ is equivalent to

   [A] $9x^3(1-x)$ [B] $3x(1-3x)$

   [C] $3x(1-9x^5)$ [D] $3x(1-3x^2)$

4. 069924a, P.I. A.A.16

   Simplify: $\frac{9x^2-15xy}{9x^2-25y^2}$

5. 010631a, P.I. A.A.16

   Simplify: $\frac{x^2+6x+5}{x^2-25}$

[1] C

[2] B

[3] D

[2] $\frac{3x}{3x+5y}$

[1] One correct factoring is shown, either $3x(3x - 5y)$ or $(3x - 5y)(3x + 5y)$.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

[4]

[2] $\frac{x+1}{x-5}$, and appropriate work is shown.

[1] Only one expression is factored correctly, such as $(x + 5)(x + 1)$ or $(x + 5)(x - 5)$, but an appropriate simplification is done.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously incorrect procedure.

[5]