

A.A.16: Simplify fractions with polynomials in the numerator and denominator by factoring both and renaming them to lowest terms.

1. 080821ia, P.I. A.A.16

Which expression represents $\frac{25x-125}{x^2-25}$ in simplest form?

[A] $\frac{-5}{x}$ [B] $\frac{25}{x-5}$ [C] $\frac{5}{x}$ [D] $\frac{25}{x+5}$

2. 060921ia, P.I. A.A.16

Which expression represents $\frac{x^2-2x-15}{x^2+3x}$ in simplest form?

[A] -5 [B] $\frac{-2x-15}{3x}$

[C] $\frac{x-5}{x}$ [D] $\frac{-2x-5}{x}$

3. 060837a, P.I. A.A.16

Express in simplest form: $\frac{x^2-5x-24}{x^2-8x}$

4. 010631a, P.I. A.A.16

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

5. 069924a, P.I. A.A.16

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

6. 060712b, P.I. A.A.16

Which expression is in simplest form?

[A] $\frac{x^2-6x+9}{x^2-x-6}$ [B] $\frac{x}{x^2}$

[C] $\frac{x^2-4}{x+2}$ [D] $\frac{9}{x^2+9}$

7. 060712b, P.I. A.A.16

Written in simplest form, the expression

$\frac{x^2y-4}{4-x^2y}$ is:

[A] -1 [B] 0 [C] $\frac{x^2y-4}{4-x^2y}$ [D] 1

8. 080305b, P.I. A.A.16

Written in simplest form, the expression

$\frac{x^2y^2-9}{3-xy}$ is equivalent to

[A] $-(3+xy)$ [B] -1

[C] $\frac{1}{3+xy}$ [D] $3+xy$

9. 060202b, P.I. A.A.16

For all values of x for which the expression is

defined, $\frac{2x+x^2}{x^2+5x+6}$ is equivalent to

[A] $\frac{x}{x+2}$ [B] $\frac{x}{x+3}$

[C] $\frac{1}{x+2}$ [D] $\frac{1}{x+3}$

10. 060504b, P.I. A.A.16

Written in simplest form, the expression

$\frac{x^2-9x}{45x-5x^2}$ is equivalent to

[A] 5 [B] $\frac{1}{5}$ [C] $-\frac{1}{5}$ [D] -5

11. 080619b, P.I. A.A.16

The expression $\frac{3y^2-12y}{4y^2-y^3}$ is equivalent to

[A] $-\frac{3}{y}$ [B] $\frac{3}{4}-\frac{12}{y^2}$ [C] $\frac{3}{y}$ [D] $-\frac{9}{4}$

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[9] B

[10] C

[11] A

[1] D

[2] C

[3] $\frac{x+3}{x}$ or $1+\frac{3}{x}$, and appropriate work is shown.

[2] Appropriate work is shown, but one computational or factoring error is made.

[1] Appropriate work is shown, but two or more computational or factoring errors are made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] $\frac{x+3}{x}$ or $1+\frac{3}{x}$, but no work is shown.

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

[3] incorrect procedure.

[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

[4] incorrect procedure.

[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

[5] incorrect procedure.

[6] D

[7] A

[8] A