Simplifying algebraic fractions

1

Simplify fully $\dfrac{x^2 + 8x + 15}{x + 5}$

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

Answer _____

2

Simplify fully $\dfrac{x^2 + 2x - 8}{x - 2}$

$= \dfrac{(x+4)(x-2)}{\quad}$

Answer _____

3

Simplify fully $\dfrac{x^2 + 6x + 8}{x^2 + 7x + 12}$

$=$ _____

Answer _____

4

Simplify fully $\dfrac{x^2 - 3x - 10}{x^2 - 25}$

$=$ _____

Answer _____

5

Simplify fully $\dfrac{3x - 12}{x^2 - 4x}$

_____

Answer _____

6

Simplify fully $\dfrac{5x + 10}{x^2 + 9x + 14}$

_____

Answer _____

7

Ana simplifies $\dfrac{x^2 + 5}{x^2 + 2x}$ by crossing out the x^2 terms. She gets $\dfrac{5}{2x}$.

Explain her mistake.

Does the fraction simplify?

_____

_____

Answer _____

8

Simplify fully $\dfrac{2x^2 + 7x + 6}{x^2 - 4}$

$=$ _____

Answer _____

Simplifying algebraic fractions *further practice*

9

Simplify fully $\dfrac{x^2 - 49}{x^2 - 4x - 21}$

Answer _____

10

Simplify fully $\dfrac{x^2 - 1}{3x^2 + 2x - 1}$

Answer _____

11

A cyclist rides $(x^2 + 9x + 20)$ km in $(x + 4)$ hours. Find her average speed in its simplest form.

Answer _____

12

Find the missing denominator.

$$\frac{x^2 + x - 20}{?} = \frac{x + 5}{x + 2}$$

Answer _____

13

Which of these fractions can be simplified? Simplify each one that can.

A $\dfrac{x + 5}{x + 10}$ **B** $\dfrac{x^2 + 5x}{5x}$

C $\dfrac{x^2 - 25}{x + 5}$ **D** $\dfrac{x^2 + 25}{x + 5}$

Answer _____

14

Simplify $\dfrac{x^2 + 2x - 15}{x^2 - 9}$

Then find its value when $x = 97$, without a calculator.

Answer _____

15

Simplify fully $\dfrac{x^2 + 3x}{x - 1} \times \dfrac{x^2 - 1}{x + 3}$

Answer _____

16

Jay simplifies $\dfrac{2x^2 + 6x}{4x + 12}$ and gets $\dfrac{x}{2}$.

Kim gets $\dfrac{2x}{4}$. Who has simplified it fully? Explain.

Answer _____