

Exercises - Solving Word Problems Using Rational Equations

Questions 1 and 2 refer to the following information.

$$\frac{1}{4} + \frac{1}{6} = \frac{1}{x}$$

Working alone, a painter can paint a house in four days. Working alone, his assistant can paint the same house in six days. Working together, they can finish painting the house in x days. The equation above represents the situation described.

1

Which of the following describes what $\frac{1}{x}$ represents in the above equation?

- A) The portion of the job that the painter can finish in one day.
- B) The portion of the job that the assistant can finish in one day.
- C) The portion of the job that the painter and assistant together can finish in one day.
- D) The portion of the job that the painter and assistant together can finish in four days.

2

How many days will it take them to finish painting the house working together?

- A) $1\frac{4}{5}$
- B) $2\frac{2}{5}$
- C) $2\frac{4}{5}$
- D) $3\frac{1}{5}$

3

Three printers A , B , and C , working together at their respective constant rates, can finish a job in 4.5 hours. Printers A and B , working together, can finish the same job in 6 hours. How many hours will it take printer C , working alone, to finish the job?

- A) 12.5
- B) 14
- C) 16.5
- D) 18

4

Mike can do a job in 48 minutes. If his brother helps him, it takes them 32 minutes. How many minutes does it take Mike's brother to do the job alone?

- A) 72
- B) 80
- C) 96
- D) 102

5

James can do a job in 8 hours and Peter can do the same job in 5 hours. If they finished $\frac{13}{25}$ of the job by working together, how long did they work together?

- A) 1 hour 24 minutes
- B) 1 hour 36 minutes
- C) 1 hour 48 minutes
- D) 2 hours 8 minutes