

Name \_\_\_\_\_

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Find the product and simplify.

$$1) \frac{5}{x+5} \cdot \frac{x}{6} \quad 1) \underline{\hspace{2cm}}$$

$$2) \frac{2y}{4y+2} \cdot \frac{10y+5}{7} \quad 2) \underline{\hspace{2cm}}$$

$$3) \frac{x^2+9x+20}{x^2+7x+12} \cdot \frac{x^2+6x+9}{x^2+8x+15} \quad 3) \underline{\hspace{2cm}}$$

Find the quotient and simplify.

$$4) \frac{3x^2}{5} \div \frac{x^3}{20} \quad 4) \underline{\hspace{2cm}}$$

$$5) \frac{(x-2)(x+5)}{2x} \div \frac{4x-8}{8x^3} \quad 5) \underline{\hspace{2cm}}$$

$$6) (x+11) \div \frac{x^2-21x+110}{x-8} \quad 6) \underline{\hspace{2cm}}$$

Perform the indicated operation. Simplify if possible.

$$7) \frac{9}{3x} + \frac{20}{5x} \quad 7) \underline{\hspace{2cm}}$$

$$8) -\frac{5}{12} - \frac{2x-2}{7x} \quad 8) \underline{\hspace{2cm}}$$

$$9) \frac{14a}{b} + \frac{5b}{4} \quad 9) \underline{\hspace{2cm}}$$

$$10) -\frac{1}{7} - \frac{7+3x}{4x} \quad 10) \underline{\hspace{2cm}}$$

Solve the proportion.

$$11) \frac{x}{20} = \frac{7}{10} \quad 11) \underline{\hspace{2cm}}$$

$$12) \frac{14}{x} = \frac{7}{4} \quad 12) \underline{\hspace{2cm}}$$

$$13) \frac{x+6}{5} = \frac{x+8}{7}$$

13) \_\_\_\_\_

$$14) \frac{11}{2} = \frac{x-10}{x-9}$$

14) \_\_\_\_\_

Solve.

- 15) The ratio of a quarterback's completed passes to attempted passes is 8 to 9. If he attempted 18 passes, find how many passes he completed. Round to the nearest whole number if necessary.

15) \_\_\_\_\_

- 16) On an architect's blueprint, 1 inch corresponds to 6 feet. If an exterior wall is 9 feet long, find how long the blueprint measurement should be. Write answer as a mixed number if necessary.

16) \_\_\_\_\_

- 17) The scale on a map states that 1 centimeter corresponds to 20 kilometers. On the map, two cities are 23 cm apart. Find the actual distance.

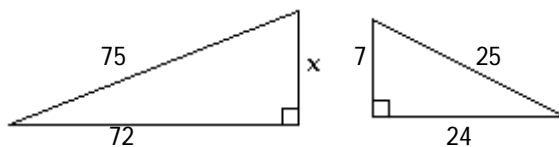
17) \_\_\_\_\_

- 18) It is recommended that there be at least 19 square feet of work space for every person in a conference room. A certain conference room is 20 feet by 11 feet. Find the maximum number of people the room can accommodate.

18) \_\_\_\_\_

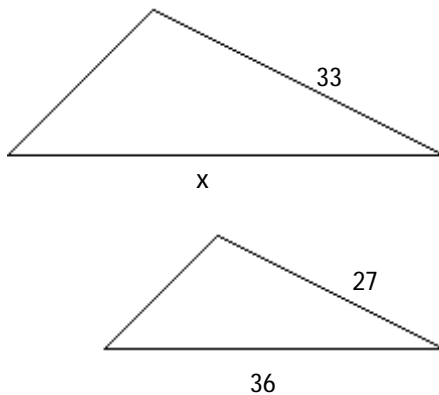
Given that the pair of triangles is similar, find the missing length.

19)



19) \_\_\_\_\_

20)



20) \_\_\_\_\_