

Prealgebra Practice Exam #3 (Chapters 3 and 4).

11. Write the fraction in simplest form.  $\frac{45x^2y}{27xy^3}$  Answer:  $\frac{5x}{3y^2}$

12. A regulation football field is 100 yd long (excluding endzones) and has an area of 5300 yd<sup>2</sup>. Find the width of the field.

Answer: A regulation football field is 53 yd wide.

14. A wire is cut into two pieces, with one piece 7 ft shorter than the other. The wire was 31 ft long before it was cut. How long was each piece?

Answer: The wire pieces were 19 in. long and 12 in. long.

15. A carpenter has two pieces of oak trim. One piece of trim is  $12\frac{1}{2}$  ft. long and the other is  $8\frac{2}{3}$  ft. long. How many feet of oak trim does he have in all?

Answer: He has  $21\frac{1}{6}$  ft. of oak trim in all

**[Core Objective 4, Perform operations on fractions and decimals. Sec 4.1, 4.2, 4.3, 4.4, 4.5, 4.8, 5.2, 5.3, 5.4, 5.5, 5.6]**  
**(no calculator)**

Perform the indicated operations.

17.  $\frac{2}{5} + \frac{1}{8}$  Answer:  $\frac{21}{40}$

18.  $\frac{5}{8} \div \left(\frac{4}{7} - \frac{5}{16}\right)$  Answer:  $-\frac{7}{2}$

19.  $\frac{6}{15} \cdot \frac{5y}{8}$  Answer:  $\frac{y}{4}$

20.  $\frac{4}{15} - \frac{3}{15} - \frac{2}{15}$  Answer:

21.  $\left(-\frac{3}{4}\right)^3 \cdot \frac{1}{3}$  Answer:  $-\frac{1}{15}$

22.  $5\frac{2}{3} \cdot 2\frac{1}{4}$  Answer:  $12\frac{3}{4}$

23.  $\frac{18x}{5} \div \frac{2}{5x}$  Answer:  $9x^2$

True/False. State your reasoning either way (no reason = no credit)

50.  $\frac{2}{3} + \frac{7}{12} = \frac{5}{4}$  Answer: True

57. Translate the phrase to mathematical symbols. Twelve subtracted from a number  
Answer:  $x - 12$

58. Write the phrase as a variable expression. Use  $x$  to represent "a number."

The quotient of twenty and a number, decreased by three

Answer:  $\frac{20}{x} - 3$

59. Write the sentence as an equation. Six added to twice a number gives  $-14$ .

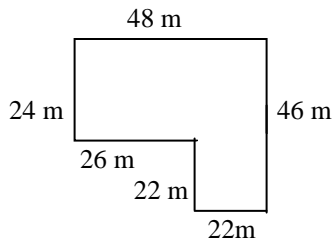
Answer:  $6 + 2x = -14$

60. Translate the sentence into an equation using  $x$  for the unknown number. (Do not solve.)

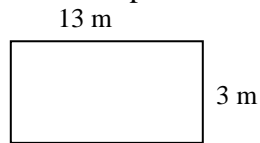
The product of a number and five is forty.

Answer:  $x(5) = 40$

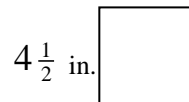
65. Find the area of the figure Answer:  $1636 \text{ m}^2$



66. Find the perimeter and area. Answer: Perimeter: 32 m Area:  $39 \text{ m}^2$

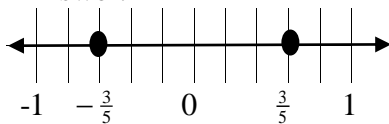


67. Find the perimeter and area of the square. Answer: Perimeter: 18 in.; Area:  $20 \frac{1}{4} \text{ in.}^2$



73. Graph the pair of fractions on a number line.  $-\frac{3}{5}, \frac{3}{5}$

Answer:



77. Rewrite the fractions with equivalent fractions that have the LCD as the denominator. Then, write the list of numbers in order from smallest to greatest.  $\frac{1}{10}$ ,  $\frac{0}{1}$ ,  $\frac{1}{2}$ ,  $\frac{1}{4}$

Answer:  $\frac{0}{1} = 0$ ,  $\frac{1}{10}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$

90. Write the fraction  $\frac{5}{3b}$  as an equivalent fraction with the denominator of  $21b$ .

Answer:  $\frac{35}{21b}$