Evaluate using the order of operations.

1) \(6 - 4 \cdot 3\)

2) \(-|12|\)

3) Evaluate \(\frac{-x}{y}\) for \(x = -24\) and \(y = -6\).

4) \(11 - (-15)\)

5) \(5 - 6 \div 3(-2)^2 - 3\)

6) Evaluate \(\frac{4x - y^2}{-5}\) for \(x = -1\) and \(y = -4\).

Simplify by combining like terms and/or performing the operation.

7) \(9(x + 1) + 2(x + 2)\)

8) \(-8(x - 5)\)

9) \((x - 8)(x + 10)\)

10) \(26.7x + 12.2y - 14.9x - 21.1y\)

11) \(-5x + 12xy - 8y - 4x + 3y\)

12) \((6z - 3) - (-z - 10)\)

13) \(-4x(-6x + 5)\)

Solve. You should check your answers.

14) \(-5 - 27 = g - 7\)

15) \(3x - 8x = -35\)
16) \(- \frac{1}{9}x = -5\)

17) \(-65 = -2 + 7x\)

18) \(2y - 3 - 3y = 13\)

19) \(-2x = -8x - 30\)

20) \(\frac{x}{7} + x = 16\)

21) \(-2a + 5 + 3a = 15 - 21\)

22) \(2(3x - 5) + 6x = -17\)

23) \(\frac{2}{7} = \frac{3}{x}\)

24) \(0.5x + 0.1x = 3.6\)

Simplify and/or perform the indicated operation.

25) \(x \cdot x^7\)

26) \((6p^8)(-9p^5)\)

27) \(3x^7(-12x^6 + 7x^3)\)

28) \(\frac{42xy}{49x^2}\)

29) \(\frac{2x^2}{3} + \frac{x^3}{24}\)

30) \(\frac{1}{4x} + \frac{1}{x}\)
Express as a product of prime factors.
31) 1400

Fraction, Decimal and Percent Problems.
32) Write \( \frac{1}{15} \) as a decimal. Using repeating decimal notation.

33) Write \( \frac{4}{15} \) as a decimal. Round to the nearest 1000th.

34) Write the equivalent decimal and percent for \( \frac{3}{20} \).

35) Write the equivalent fraction and percent for 0.14.

36) 72 is 36% of what number?

37) 1.4 is what percent of 140?

Add or subtract. Simplify all answers. Express as a mixed number.
38) \( 18 \frac{1}{9} - 5 \frac{4}{9} \)

39) \( 17 \frac{2}{5} + 18 \frac{1}{4} \)

Find an equivalent fraction with the given denominator.
40) \( \frac{1}{4} = \frac{?}{20x} \)

Find Square Roots.
41) Is \( \sqrt{8} \) closer to 2 or 3?

Find the missing length or lengths in the right triangle. If necessary, you may leave your answer as a square root.
42) \[
\begin{array}{c}
4 \text{ mi} \\
\hline
\end{array}
\]

Unit conversion problems.
43) For a school walk-a-thon, Rebecca got pledges totaling \$12 per mile walked. If she walks 26,400 feet, how much money will she have collected for the walk-a-thon?

44) Bill purchased 0.037 kilograms of chocolate, how many grams did he purchase?
45) A bacteria culture measures 151 millimeters at its widest point. How many centimeters wide is the culture?

46) An experimental drug costs $29,000 per liter. How much would one milliliter cost?

Find the unknown side.

47) \[ V = 1680 \text{ ft}^3 \]

\[ W = 14 \text{ ft} \]
\[ 30 \text{ ft} \]

Plot the ordered pairs on the rectangular plane.

48) a) In which quadrant is the x-coordinate negative and the y-coordinate positive?
   b) In which quadrant is the x-coordinate positive and the y-coordinate negative?
   c) In which quadrant is the x-coordinate positive and the y-coordinate positive?
   d) In which quadrant is the x-coordinate negative and the y-coordinate negative?

Graph the linear equation.

49) \[ y = 3x + 6 \]


50) The Pan family took a trip and traveled 565, 449, 439, 898, and 560 miles on 5 consecutive days. Round each distance to the nearest hundred and estimate the distance they traveled.

51) Using your estimated answer in the previous problem, what was the mean daily mileage?

Find the median value.

52) The following test scores were recorded for a student: 72, 64, 60, 60, 72, 74.
The circle graph summarizes the results of a survey of the favorite movie category chosen by a group of adults.

53) 2200 adults answer the survey. Estimate how many of the survey respondents said that they favor comedies? Exact answers will be marked incorrect.

54) Find the difference in altitude between a mountain 2800 feet high and a desert valley 539 feet below sea level.

55) What is the first months interest on a loan of $4000 with a interest rate of 6% annually.

56) It takes Fred 24 minutes to type and spell check 14 pages. Find how many pages he can type and spell check in 1.5 hours. Round answers to the nearest tenth if necessary.

57) Ronny and Joy wanted to compare the gas mileage they were getting. One particular week, Ronny drove 126.3 miles on 5.1 gallons of gas. That same week, Joy drove 191.9 miles and used 6.4 gallons of gas. Whose car got more miles per gallon of gas? Hint: Use estimates.

58) Jody is using a recipe that calls for \(\frac{1}{8}\) cup of milk per batch. If she has \(1\frac{3}{8}\) cups of milk available, how many batches can she make?
Answer Key
Testname: PRACTICE FINAL EXAM (F15)

1) -6
2) -12
3) -4
4) 26
5) -6
6) 4
7) 11x + 13
8) -8x + 40
9) $x^2 + 2x - 80$
10) $11.8x - 8.9y$
11) $-9x - 5y + 12xy$
12) $7z + 7$
13) $24x^2 - 20x$
14) -25
15) 7
16) $x = 45$
17) $x = -9$
18) $y = -16$
19) $x = -5$
20) $x = 14$
21) -11
22) $x = -\frac{7}{12}$
23) $10\frac{1}{2}$
24) 6
25) $x^8$
26) -54p
27) $-36x^{13} + 21x^{10}$
28) $\frac{6y}{7x}$
29) $\frac{16}{x}$
30) $\frac{5}{4x}$
31) $2\cdot 5^2 \cdot 7$
32) 0.06
33) 0.267
34) 0.15; 15%
35) $\frac{7}{50}$; 14%
36) 200
37) 1%
38) $9\frac{2}{3}$
Answer Key
Testname: PRACTICE FINAL EXAM (F15)

39) $35\frac{13}{20}$
40) $\frac{5x}{20x}$
41) 3
42) $\sqrt{12}$
43) $60.00$
44) 37.0 g
45) 15.1000002 cm
46) $29$
47) $W = 4$ ft
48) a) II  
   b) IV  
   c) I  
   d) III
49)

50) 2900 miles
51) 580 miles
52) 68
53) 737 respondents
54) 3339 ft
55) $20$
56) 52.5 pages
57) Joy
58) 11 batches