Pre-Algebra Regular Summer Review Packet

Compute. Use order of operations. Show all work!

1. $36 - 4 + \sqrt{25}$
2. $8(3 + 7) - 5$
3. $7(6) - 40 \div 5$
4. $15 + 18 \div 3^2 - 6$
5. $\sqrt{36} \div (15 - 9)\ 4$
6. $(8 - 3)^2 \cdot (14 - 8)$
7. $\frac{(12-5) \bullet 6}{7-4}$
8. $\frac{80 \div (6-2)}{35 \div 7}$
9. $2^4 \div [5^2 - (13 + 7)]$
10. $40 - 2(15)$
11. $6(8 - 4) + 5$
12. $9(4) - 24 \div \sqrt{16}$
13. $15 - 2(3)$
14. $98 - (36 + 15)$
15. $(98 - 36) + 15$
16. $17 + 3(4 + 2)$
17. $38 - 5(3 + 4)$
18. $5(8 + 4) - |12|$
19. $7\ (1 + 9) - 44$
20. $(24 - 9) - (1 + 3)$
21. $(50 + 16) - (17 - 6)$
22. $\frac{8+7}{7-2}$
23. $\frac{40}{4(2)}$
24. $\frac{4(3)}{14-4}$
25. $\frac{6(8-3)}{2}$
26. $\frac{8}{2} + \sqrt{121}$
27. $\frac{9}{3} - 1$
28. $|-7| + \frac{18}{3(3)}$
29. $\frac{9(2)}{6} + 4$
30. $12 - \frac{8(5)}{4}$

Use grouping symbols to make each statement true.

31. $25 - 8 \cdot 3 = 51$
32. $9 + 4 \cdot 5 - 3 = 17$
33. $9 + 9 \div 3 \cdot 5 - 3 = 12$
34. $6 \cdot 5 - 5^2 + 2 = 3$

Write as an algebraic expression.

1. 7 less than 4 times a number _____
2. 11 more than half a number _____
3. 6 less than twice w _____
4. the sum of triple z and half of x _____
5. 5 more than the product of 14 and y _____
6. ½ the difference of a number and 15 _____
7. double the sum of x and 5 _____
8. 4 less than the quotient of x and -5 _____

General Review

Write the place-value position for each digit in 48.092.

1. the 9
2. the 8
3. the 4
4. the 2

Replace each ◯ with <, >, or = to make a true sentence.

5. 5,048 ◯ 5,084
6. 7.641 ◯ 7.6410

Add, subtract, multiply, or divide.

7. $\begin{array}{r} 2{,}068 \\ +\ 487 \\ \hline \end{array}$
8. $\begin{array}{r} 40{,}236 \\ +\ 14{,}890 \\ \hline \end{array}$
9. $\begin{array}{r} 584 \\ -\ 391 \\ \hline \end{array}$
10. $\begin{array}{r} 6{,}000 \\ -\ 3{,}109 \\ \hline \end{array}$

11. 5.8 + 10.3 =
12. 4.39 + 21.6 + 0.934 =
13. 4.10 − 2.684 =
14. \$147.04 − \$76.38 =

15. $\begin{array}{r} 807 \\ \times\ 6 \\ \hline \end{array}$
16. $\begin{array}{r} 57 \\ \times\ 63 \\ \hline \end{array}$
17. $\begin{array}{r} 9.07 \\ \times\ 12 \\ \hline \end{array}$
18. $\begin{array}{r} 12.015 \\ \times\ 0.14 \\ \hline \end{array}$

19. $4\overline{)824}$
20. $38\overline{)342}$
21. $0.8\overline{)50.4}$
22. $0.56\overline{)1.148}$

Find the greatest common factor for each set of numbers.

23. 32 and 48
24. 16, 24, and 72

Find the least common multiple for each set of numbers.

25. 33 and 39
26. 22, 44, and 55

Write each fraction in simplest form.

27. $\frac{10}{16}$ =
28. $\frac{15}{27}$ =
29. $\frac{12}{40}$ =
30. $\frac{28}{60}$ =

Replace each ◯ with <, >, or = to make a true sentence.

31. $\frac{7}{9}$ ◯ $\frac{5}{6}$
32. $\frac{10}{12}$ ◯ $\frac{5}{6}$

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____
26. _____
27. _____
28. _____
29. _____
30. _____
31. _____
32. _____

General Review

Add, subtract, multiply, or divide. Write each result in simplest form.

33. $\frac{4}{11} + \frac{3}{11} =$

34. $\frac{7}{12} + \frac{1}{6} =$

35. $2\frac{8}{9} + 8\frac{2}{3} =$

36. $\frac{8}{17} - \frac{7}{17} =$

37. $\frac{2}{3} - \frac{7}{15} =$

38. $2\frac{5}{8} - 1\frac{5}{6} =$

39. $\frac{4}{5} \times \frac{1}{3} =$

40. $\frac{8}{15} \times \frac{3}{4} =$

41. $1\frac{7}{8} \times 3\frac{3}{5} =$

42. $\frac{1}{8} \div \frac{1}{3} =$

43. $\frac{3}{8} \div 6 =$

44. $5\frac{5}{8} \div 1\frac{7}{8} =$

Write each percent as a decimal and each decimal as a percent.

45. 6% =

46. 0.195 =

Find the percent of each number.

47. 125% of 10

48. 6.8% of 500

Complete the following.

49. 420 min = ☐ h

50. 5 ft = ☐ in.

Solve.

51. A train traveled 671 miles one day and 869 miles the next. How many miles is this altogether?

52. A 28-story building has 32 rooms on each floor. How many rooms are in the building?

53. There are 6 buses and 282 passengers. How many are on a bus if each one carries the same number of passengers?

54. A television set is on sale at $43.50 off the original price. Find the sale price if the original price is $350.

55. A shirt is purchased for $10.39. How much change is given from $15?

56. The admission to a movie is $3.50. What amount is collected for 136 admissions?

Find the mean for the following groups of numbers.

57. 63, 67, 60, 78, 74, 72

58. 41, 37, 25, 36, 31

33. _____
34. _____
35. _____
36. _____
37. _____
38. _____
39. _____
40. _____
41. _____
42. _____
43. _____
44. _____
45. _____
46. _____
47. _____
48. _____
49. _____
50. _____
51. _____
52. _____
53. _____
54. _____
55. _____
56. _____
57. _____
58. _____

Solve each equation. Show algebra steps.

1. $z + 16 = 4$

2. $0 = m + 17$

3. $-3 = j + 5$

4. $h + 13 = 21$

5. $9 + g = -20$

6. $-7 + d = -26$

7. $a - 20 = -3$

8. $w - 18 = 7$

9. $t - 19 = 23$

10. $-9 = k - 11$

11. $-15 = n - 22$

12. $27 = x - 14$

13. $-8 + b = -5$

14. $t - 24 = 12$

15. $-28 + p = -3$

Write *true* or *false*. If false, explain why.

16) The only prime factors of 252 are 2, 3, and 7.

17) The GCF of 14 and 15 is 1.

18) The prime factorization of 63 is 3×21.

19) The only prime factors of a power of 10 are 2 and 5.

20) The GCF of 27 and 45 is 3.

21) If the GCF of two numbers is 1, the numbers have no common factors.

22) Every multiple of 4 is a multiple of 16.

Solve. There are two numbers.

23) One number is 10. The unknown number is less than 10. The GCF of the numbers is 2. Their LCM is 30. What is the unknown number?

Fraction Practice

Show all work.

1. Replace each ___?___ with >, <, or =.

a. $\frac{5}{9}$ ___?___ $\frac{5}{11}$

b. $\frac{47}{48}$ ___?___ $\frac{48}{49}$

c. $\frac{12}{25}$ ___?___ $\frac{10}{12}$

d. $\frac{24}{25}$ ___?___ $\frac{8}{9}$

e. $\frac{14}{25}$ ___?___ $\frac{14}{27}$

f. $\frac{9}{16}$ ___?___ $\frac{13}{18}$

2. Find each sum or difference. Write each answer in lowest terms.

a. $\frac{2}{3}-\frac{4}{9}$

b. $\frac{11}{12}-\frac{5}{8}$

c. $\frac{4}{15}+\frac{2}{3}$

d. $\frac{3}{8}+\frac{1}{6}$

e. $\frac{2}{3}-\frac{5}{11}$

f. $\frac{5}{12}+\frac{2}{9}$

3. Carl has a rock collection. Of the rocks, $\frac{3}{8}$ are quartz and $\frac{1}{3}$ are granite. What fraction of Carl's rocks are quartz or granite?

For use with Section 3

4. Find each sum or difference. Write each answer in lowest terms.

a. $3\frac{2}{3}+1\frac{5}{9}$

b. $6\frac{2}{3}-4\frac{2}{5}$

c. $48\frac{1}{3}-26\frac{1}{2}$

d. $6\frac{3}{4}+9\frac{5}{6}$

e. $6\frac{3}{4}-2\frac{1}{2}$

f. $15-4\frac{7}{12}$

g. $78\frac{1}{2}-24\frac{3}{4}$

h. $12\frac{1}{2}+8\frac{7}{10}$

i. $18\frac{5}{6}-4\frac{3}{5}$

5. Find each product. Write each answer in lowest terms.

a. $4 \cdot 2\frac{1}{6}$

b. $5 \cdot 2\frac{1}{4}$

c. $\frac{3}{4} \cdot \frac{8}{9}$

d. $\frac{5}{8} \cdot \frac{2}{5}$

e. $2\frac{3}{5} \cdot 1\frac{3}{8}$

f. $1\frac{3}{4} \cdot \frac{2}{3}$

6. Find each quotient. Write each answer in lowest terms.

a. $6 \div \frac{5}{6}$

b. $3\frac{1}{4} \div 1\frac{3}{4}$

c. $3 \div 1\frac{2}{7}$

d. $9 \div \frac{3}{8}$

e. $2\frac{5}{6} \div \frac{1}{3}$

f. $2\frac{4}{9} \div \frac{2}{3}$

7. Sonya has 9 yd of wrapping paper. She cuts the paper into pieces that are $\frac{2}{3}$ yd long. How many pieces does she have?

8. A recipe for rice pudding calls for $3\frac{3}{4}$ c milk. How much milk would you need to triple the original recipe?