

I. Can you add/subtract/multiply/divide fractions with positive and negative values?

- **CHANGE TO IMPROPER FRACTIONS!** Are your answers in simplest form? Did you double check the negatives/positives?

1) $1\frac{2}{5} - 3\frac{1}{10}$

2) $1\frac{4}{5} \cdot 2\frac{3}{10} \cdot \frac{2}{3}$

3) $-1\frac{2}{5} \div 2\frac{1}{10} + \frac{4}{7}$

4) $\left[-8\left(\frac{1}{4}\right)\right] - \left[-8\left(\frac{3}{4}\right)\right]$

II. Can you add/subtract/multiply/divide decimals with positive and negative values?

5) $-20 + 1.78$

6) $-7.8 + (-3.25)$

7) $-11.2 \cdot 3.5$

8) $-1.83 \div 0.6$

III. Solve the following equations and inequalities.

9) $\frac{1}{3}k + 8 = \frac{5}{6}$

10) $4.5x - 10.8 = 17.55$

11) $-\frac{3}{5}a + 1 < -6$

12) $0.3f - 3.2 \leq 8.8$

IV. Convert the following fractions into decimals. Tell if the decimals are TERMINATING or REPEATING DECIMALS

13) $\frac{3}{11}$

14) $2\frac{7}{8}$

15) $-4\frac{5}{6}$

16) $\frac{7}{9}$

V. Convert the following decimals into fractions. Your fractions MUST be simplified!

17) 8.125

18) 2.38

19) $4.\overline{45}$

20) $-3.\overline{3}$

VI. Rational and Irrational Numbers

$$\pi, \sqrt{16}, \sqrt{8}, \sqrt[3]{64}, \frac{2}{3}, \sqrt{70}, 2\frac{1}{2}, \frac{-27}{3}, \sqrt{121}$$

21) Label the numbers above as rational or irrational ?

22) Which numbers above are integers?

 23) Which numbers are equivalent to $\frac{-2}{7}$? $\frac{-6}{21}, \frac{-2}{-7}, \frac{2}{-7}, \frac{8}{-28}$

 24) Put the numbers in order from least to greatest. $\frac{8}{10}, \sqrt{\frac{4}{25}}, \frac{3}{5}$
VII. Calculate the following. Simplify all radicals as needed.

25) $\sqrt{49}$

26) $\sqrt[3]{-64}$

27) $-\sqrt{75}$

28) $-2\sqrt[3]{-8}$

29) $\sqrt{32}$

VIII. Estimate the value of the following radicals by naming the two numbers they lie between.

EX. $\sqrt{12}$ will fall between 3 and 4

30) $\sqrt{65}$

31) $-\sqrt{53}$

32) $\sqrt{120}$

33) $-\sqrt{18}$

IX. Solve the following equations.

34) $\sqrt{x+4} = 8$

35) $\sqrt[3]{c} - 4 = 2$

36) $-31 = -4x^2 + 5$

37) $x^3 + 9 = -18$

X. Word Problems

38) A square mosaic is made of small pieces of glass. If there are 170 pieces of glass, *approximately* how many mosaic tile pieces are along one edge?

39) Three students conduct the same survey about the amount of exercise people get each week. The results of the number of people exercise at least 150 minutes a week are shown.

Survey results of people who exercise at least 150 minutes a week.
Denise reported that 9 out of 24 people she surveyed exercise at least 150 minutes a week
Ryan reported that $\frac{1}{3}$ of the people he surveyed exercise at least 150 minutes a week.
Douglas reported that 0.3 of the people he surveyed exercise at least 150 minutes a week.

In which person's survey did the most people exercise at least 150 minutes a week?

40) The fare for riding in a taxi is a \$4 fixed charge and \$0.80 per mile. What is the most miles you can go without spending more than \$32?

41) Marcus goes to the movies. He spent \$9.50 for the movie ticket and \$4.25 on popcorn and \$1.50 for a drink. If boxes of candy cost \$2.50, what is the maximum number of boxes of candy Marcus can buy if his mother gave him \$50 to go to the movies?

42) You walk 5 consecutive days for 2 hours, $1\frac{1}{2}$ hours, $3\frac{1}{4}$ hours, $\frac{1}{2}$ hours, and $1\frac{3}{4}$ hours. How many calories will you burn for the 5 days if you burn 125.5 calories per hour?