

# ATI TEAS 7- MATHS EXAM CALCULATIONS AND WELL-DEFINED SOLUTIONS

ATI TEAS MATH - TEAS 7

(These questions are similar problems 1 through 4 found in the Mathematics Section Quiz in the ATI Teas Study Manual).

1a. Convert  $1/5$  to it's equivalent decimal and percent.

$$\text{decimal} = 0.2$$

1b. Convert 1.28 to it's equivalent fraction and percent.

$$\text{percent} = 28\%$$

$$\text{fraction} = \frac{128}{100} \div 2 = \frac{64}{50} \div 2 = \boxed{\frac{32}{25}}$$

$$1.28 = \boxed{128\%}$$

1c. Convert 46.2% to it's equivalent fraction and decimal.

$$46.2\% = \boxed{0.462}$$

$$\frac{46.2}{100} = \frac{462}{1000} = \div 2 = \boxed{\frac{231}{500}}$$

2. Simplify the expression to a fraction in lowest terms.

PEMDAS

$$\frac{1}{6} - \frac{1}{9} \times \frac{5}{8}$$

$$= \frac{1 \times 12}{6 \times 12} - \frac{5}{72}$$

$$= \frac{12}{72} - \frac{5}{72} = \boxed{\frac{7}{72}}$$

3. Simplify the expression to a fraction in lowest terms.

$$\left( \frac{1 \times 5}{2 \times 5} + \frac{3 \times 2}{5 \times 2} \right) \div \frac{2}{9}$$

$$= \left( \frac{5}{10} + \frac{6}{10} \right) \div \frac{2}{9}$$

$$= \frac{K}{10} \div \frac{C}{9} = \frac{11}{10} \div \frac{2}{9} = \frac{11}{10} \cdot \frac{9}{2} = \boxed{\frac{99}{20}}$$

4. Arrange the numbers from least to greatest.

~~$6/7$~~ ,  ~~$0.80$~~ ,  ~~$8\%$~~ ,  ~~$7/9$~~ ,  ~~$-0.8$~~ ,  ~~$-0.08$~~ ,  ~~$-2/3$~~

0.857142857142857

$\approx .86$

□

~~$0.80$~~ ,  ~~$0.08$~~ ,  $0.\overline{7}$ ,  ~~$-0.80$~~ ,  $-0.08$ ,  ~~$-0.\overline{6}$~~   
↓ ↓ ↓  
 $0.77\dots$   $-0.66\dots$

$-0.8$ ,  $-2/3$ ,  $-0.08$ ,  $8\%$ ,  $7/9$ ,  $0.80$ ,  $6/7$

(These questions are similar to problems 5 through 7 found in the Mathematics Section Quiz in the ATI Teas Study Manual).

5. Show the steps needed to solve the following equation.

$$\begin{aligned} 7x + 5x - 6 &= 8x + 10 \\ 12x - 6 &= 8x + 10 \\ \underline{-8x} & \quad \underline{-8x} \\ 4x - 6 &= 10 \\ \underline{+6} & \quad \underline{+6} \\ 4x &= 16 \\ \underline{\div 4} & \quad \underline{\div 4} \\ x &= 4 \end{aligned}$$

6. Jose is trying to calibrate his new fitness watch. The app that comes with the watch asks for the user to input their average stride. Jose measures this to be approximately 2.5 feet.

a. Using 2.5 feet as his stride, how many feet will Jose walk if he takes 6000 steps in a day?

b. How many miles is this?

$$a. \quad 6000 \times 2.5 = \boxed{15000 \text{ ft}}$$

$$b. \quad 5280 \text{ ft} = 1 \text{ mile}$$

$$\boxed{15000 \text{ ft} \approx 2.8 \text{ miles}}$$

$$\frac{5280 \text{ ft}}{15000 \text{ ft}} = \frac{1 \text{ mile}}{x \text{ mile}}$$

$$\frac{15000}{5280} = \frac{5280x}{5280}$$

$$\boxed{2.8 \approx x}$$

7. Javon and Evette are taking a road trip. The total distance of the trip will be 986 miles. They have already traveled 190 miles in the first 3 hours of their trip. They plan to stop at the halfway point of the trip to rest at a hotel. How many more miles do they have left until they get to the halfway point?

$$\frac{986}{2} = 493 \text{ miles}$$

↙ halfway

$$\begin{array}{r} 493 \\ -190 \\ \hline 303 \end{array}$$

303 miles left

(These questions are similar to problems 8 through 10 found in the Mathematics Section Quiz in the ATI Teas Study Manual).

8. A new cell phone has just been released and many retailers are offering discounts or lower prices to compete. Retailer #1 has the phone priced at 8% off of the MSRP of \$975. Retailer #2 lists the price at \$900. Retailer #3 has the price listed at \$950 but if you buy within the next 10 days, you can take \$40 off of that price. Which retailer has the best price right now?

$$\begin{aligned} \#1: \quad & 8\% \text{ of } 975 = 78 \text{ discount} \\ & 975 - 78 = \boxed{\$897} \end{aligned}$$

$$\#2: \quad \boxed{\$900}$$

$$\#3: \quad 950 - 40 = \boxed{\$910}$$

9. A book collector has an empty shelf on her bookcase. The shelf is 3 feet long. The average thickness of one of her books is 1.25 inches. About how many books could she expect to fit on the empty shelf, assuming the height of the book isn't an issue?

$$\frac{12 \text{ inches}}{x \text{ in.}} = \frac{1 \text{ foot}}{3 \text{ feet}}$$

$$36 = x$$

$$36 \text{ inches} = 3 \text{ feet}$$

$$\frac{1 \text{ book}}{x \text{ books}} = \frac{1.25 \text{ in.}}{36 \text{ in.}}$$

$$\frac{36}{1.25} = \frac{1.25x}{1.25}$$

$$28.8 = x$$

28-29 books

10. A quick bread recipe calls for 3 oz of water for every 4 oz of flour. A baker has added  $\frac{7}{8}$  pound of flour to a mixing bowl. What is the approximate amount of water the baker should add if he is following the recipe?

$$\frac{16 \text{ oz}}{x \text{ oz}} = \frac{1 \text{ pound}}{\frac{7}{8} \text{ pound}}$$

$$\frac{16 \text{ oz}}{x \text{ oz}} = \frac{1 \text{ pound}}{.875 \text{ pound}}$$

$$x = 14 \text{ oz}$$

$$\frac{3 \text{ oz water}}{x \text{ oz water}} = \frac{4 \text{ oz flour}}{14 \text{ oz flour}}$$

$$\frac{42}{4} = \frac{4x}{4}$$

$$10.5 = x$$