

Problem 1

How do you represent 10% as a fraction?

(A) $\frac{10}{1} = 10$

(B) $\frac{1}{2} = 0.5$ (\$00.50)

(C) $\frac{1}{100} = 0.01$

(D) $\frac{1}{10} = 0.1 = \frac{10}{100}$

10% → "percent" → "per cent"
 $(10 / 100) = \frac{10}{100} = 0.1$
 • Reducing fractions
 • Common denominator
 • greatest common factor

$$\begin{aligned} 1 \times 10 &= 10 \\ 2 \times 5 &= 10 \end{aligned} \quad \left. \begin{array}{l} 1, 2, 5, 10 \end{array} \right\}$$

$$\$15/\text{hr} \rightarrow \frac{\$15}{1\text{hr}}$$

107%, 13%, 5.5%.

Problem 2

How do you represent 10% as a decimal?

(A) 0.10

(B) 1.0

(C) 0.001

(D) 10.0

10% → $\frac{10}{100} \rightarrow \frac{10.0}{100}$
 "move the decimal 2 places to the left"
 $\sqrt{10.0}$
 $0.10 = 0.1$

$$\$7.00 \quad \$7.00$$

$$\begin{aligned} 13 &\rightarrow 13.0 \rightarrow 13.00 \\ 200 &\rightarrow 200.00 \rightarrow \$200.00 \\ 10 &\rightarrow 10.0 \end{aligned}$$

Problem 3

$$\$12.78 \text{ total}$$

There is a shirt you want that costs \$12.00. Volusia County sales tax is 6.5%. How much will the tax be?

~~(A)~~ \$0.12 "1% of \$12 is 0.12"

(B) \$1.20

(C) \$0.78

~~(D)~~ \$7.80 "50% of \$12 is \$6"
 $0.5 \times 12 = 6$

$$\$12.00$$

6.5% tax

$$\frac{6.5}{100} = 0.065$$

$$0.065 = 0.065$$

$$[0.065 \times 100 = 6.5\%]$$

% → per 100
 → out of 100
 → over 100
 $\frac{\cdot}{100}$

"2 places to the left"
 - 2 places bc 2 zeros in 100
 - to the left, bc division

[0.065 of \$12.00 → of = multiply (x, •, (x) → mult. notation)
 6.5% of 12 is ? is = equals
 ? = unknown, possible answer, variable
 per = division, fraction

$$0.065 \times 12 = X$$

$$0.78 = X$$

$$X = 0.78$$

12% → 0.12

$$12 = 12.00 = 12.0 = 12.00 \dots$$

$$12.0\%$$

3.2%

0.05% 10017%

Problem #1

- Representing a percentage as a fraction

$$10\% = \frac{10}{100} = 10/100, \quad 7.5\% = \frac{7.5}{100}, \quad 0.002\% = \frac{0.002}{100}$$

% \rightarrow percent \rightarrow per 100 $\rightarrow \frac{\bullet}{100}$

- Are there other fractions?

$$10\% \rightarrow \frac{10}{100} = \frac{1}{10} ?$$

lowest terms

$$20\% \rightarrow \frac{20}{100} = \frac{20 \div 20}{100 \div 20} = \frac{1}{5}$$

$$\frac{20}{100} = \frac{20 \div 5}{100 \div 5} = \frac{4}{20}$$

$$\frac{4}{20} = \frac{X}{100}, \quad X = 20$$

$\times 5$

EX: $\frac{3}{4}$ (0.75), 0.25, 50% (0.50), 1.5, $\frac{3}{8}$

List in order, from smallest to largest

$$\frac{0.25}{\text{Smallest}} \quad \frac{3}{8} \quad 50\% \quad \frac{3}{4} \quad \frac{1.5}{\text{largest}}$$

- 0.25 and 1.5 are both decimals
 $0.25 < 1.5$ *inequality signs
 \hookrightarrow "less than"

- Convert 50% \rightarrow 0.50
- Convert $\frac{3}{4} \rightarrow$ 0.75

" $\frac{3}{4}$ of a tank"

"3 quarters of a tank"

" $\frac{1}{4}$ of a tank"
quarter of a tank

TOPICS TO REVIEW:

* Reducing fractions

* Factors of 20: 1, 2, 4, 5, 10, 20

$$20: 1 \times 20 = 20 \checkmark$$

$$2 \times 10 = 20 = 10 \times 2 \checkmark$$

$$5 \times 4 = 20$$

$$20 \times ? = 20 ?$$

* Greatest common factor

* Commutative Property

* Cross multiply

$\frac{3}{8}$ is less than 50%.

$$\frac{4}{8} = \frac{1}{2} \rightarrow 50\%$$

$$\frac{3}{8} \begin{matrix} \boxed{>} \\ \boxed{<} \end{matrix} 0.25 = \frac{1}{4} = \frac{2}{8} \begin{matrix} > \text{"greater"} \\ < \text{"less"} \end{matrix}$$

" $\frac{3}{8}$ is more than a quarter"

- 3.2% • Moving the decimal
• Convert to a fraction, calculator

- Moving the decimal -

- 3.2% ① 3.2 divided by 100
② Move decimal to the left
*WHY? Division
③ Move 2 places to the left
*WHY? 2 zeros in 100

0.03.2 } 0.032

- Convert to Fraction (calculator)

- 3.2% ① $\frac{3.2}{100}$ ② 0.032

107% , 13% , 5.5%

107% "107 percent"
107 divided by 100
 $107 \div 100$
 $107 / 100$
 $\frac{107}{100}$

$$13\% \rightarrow \frac{13}{100}$$

$$5.5\% \rightarrow \frac{5.5}{100}$$

[% \rightarrow dividing by 100]

percent \rightarrow per cent
per 100

0.7% }
22% }
5000% }

Problem 4

Including tax, what is the total amount you'll pay for the shirt in problem #3?

- (A) \$12.12
 (B) \$12.00
 (C) \$13.78
 (D) \$12.78

Problem 5

Yesterday, Rashed went to the grocery store to buy a few things. Some items were taxed at 6.5%, and some items were not taxed.

	Water	\$2.99	not taxed
6 x	Apples	\$0.75	not taxed
2 x	Paper Towels	\$4.99	taxed
	Soup	\$2.00	not taxed
	Socks	\$5.50	taxed
	Birthday Card	\$1.99	taxed

①

Taxed

$$\$4.99 \times 0.065 = 0.32$$

$$\$5.50 \times 0.065 = 0.36$$

$$\$1.99 \times 0.065 = 0.13$$

Total \$0.81
tax

How much tax did Rashed end up paying?

- (A) \$1.18
 (B) \$8.11
 (C) \$0.81
 (D) \$0.65

② taxed
 4.99
 5.50
 1.99

$$\$12.48 \times 0.065 = 0.8112 \approx 0.81$$

Rounding Note

$$5.50 \times 0.065 = 0.3575$$

$$\approx 0.36$$

What was the total amount that Rashed spent at the store?

- (A) \$19.03
 (B) \$18.22
 (C) \$17.41
 (D) \$19.40

→ Total of "not taxed" items
 • Total of "taxed" items plus sales tax

2.99
 0.75
 2.00

\$12.48 + \$0.81

$$\$5.74 + \$13.29 = \$19.03$$

* Ignoring tax/not taxed

- What is your total
w/ a 22%
discount

discount

① : 6 apples \Rightarrow \$4.50 (0.75×6)
: 2 paper towels \Rightarrow \$9.98 (2×4.99)

② Adding up the cost of all items
\$26.96

③ 22% Discount of our total bill

$$22\% = 0.22 \times \$26.96 = \$5.93$$
$$\frac{22}{100}$$

} What is 22% of
26.96? 5.93

$$5.93 = 0.22 \times 26.96$$
$$5.93 = X \cdot 26.96$$

④ Apply the discount: Total = 22% discount

$$26.96 - 5.93 = 21.03$$

\$21.03