

Accelerated Math Notes

Estimating Percents

Section 6-2

*We will use "nice" percents of "nice" numbers when we estimate the answer to problems which we will use the calculator to find the exact answer.

*We are looking to use our multiplication/division facts along with compatible numbers.

*We will try to use zeroes in our nice numbers, but we are not rounding.

Example: 24.2% of 3748

25% of 3600

$\frac{1}{4}$ of 3600
900

not 3700 because 37 is not compatible with 4

The exact answer is
907.016

$$.242 \times 3748 =$$

"Nice" percent list

1% $\frac{1}{100}$	22 $\frac{2}{9}$ % $\frac{2}{9}$	55 $\frac{5}{9}$ % $\frac{5}{9}$	83 $\frac{1}{3}$ % $\frac{5}{6}$
5% $\frac{1}{20}$ or $\frac{1}{10} \div 2$	25% $\frac{1}{4}$	60% $\frac{3}{5}$	87.5% $\frac{7}{8}$
10% $\frac{1}{10}$	30% $\frac{3}{10}$	62.5% $\frac{5}{8}$	88 $\frac{8}{9}$ % $\frac{8}{9}$
11 $\frac{1}{9}$ % $\frac{1}{9}$	33 $\frac{1}{3}$ % $\frac{1}{3}$	66 $\frac{2}{3}$ % $\frac{2}{3}$	90% $\frac{9}{10}$
12.5% $\frac{1}{8}$	37.5% $\frac{3}{8}$	70% $\frac{7}{10}$	100% 1
15% $\frac{3}{20}$ or $\frac{1}{10} \times 1.5$	40% $\frac{2}{5}$ or $\frac{10\% \times 4}$	75% $\frac{3}{4}$	
16 $\frac{2}{3}$ % $\frac{1}{6}$	44 $\frac{4}{9}$ % $\frac{4}{9}$	77 $\frac{7}{9}$ % $\frac{7}{9}$	
20% $\frac{1}{5}$	50% $\frac{1}{2}$	80% $\frac{4}{5}$	

For percents less than 1% estimate to a fraction that is close to the percent.

Example: On a team of 56 football players, about how many will have O+ blood?

36% of 56

40% of 55

$\frac{2}{5} \times \frac{11}{22} = \frac{22}{22}$

37.5% of 56

$\frac{3}{8} \times 56 = 21$

Population Blood Types

O	positive	36%
O	negative	6%
A	positive	38%
A	negative	6%
B	positive	8%
B	negative	2%
AB	positive	3.5%
AB	negative	0.5%

33 $\frac{1}{3}$ % of 60

$\frac{1}{3}$

20

40% of 60

10% x 4

6 x 4 = 24

1) In a class of 29 students, about how many will have A+ blood?

38% of 29

37.5% of 32

$\frac{3}{8} \times 32 = 12$

2) In a city of 62,000 people, about how many will have AB negative blood?

0.5% of 62000

$1\% \div 2$

1% of 62000 = 6200

310

3) A city's population is just over 4,010,117. About how many people will have type B blood?

10% of 4,010,000

401,000

4) There are 562 students enrolled at LMS. How many would you expect to have O negative blood?

6% of 562

5% of 600

$10\% \div 2$

60 $\div 2$

10% of 500 = 50

30

Estimate the sale price of a soccer ball that regularly sells for \$14.95 and is advertised with a discount of 15%.

$$85\% \text{ of } 14.95$$

$$87.5\% \text{ of } 16$$

$$\frac{7}{8} \quad \frac{1}{8} \text{ of } 16 = 2$$

$$\begin{array}{r} 16 \\ \times 7 \\ \hline 112 \end{array}$$

$$83\frac{1}{3}\% \text{ of } 12$$

$$\frac{5}{6} \quad \frac{1}{6} \text{ of } 12 = 2$$

$$\begin{array}{r} 12 \\ \times 5 \\ \hline 60 \end{array}$$

Suppose you have just purchased a new game system for \$398 and the sales tax in your state is 4.75%. Estimate the amount of sales tax on this purchase.

$$4.75\% \text{ of } 398$$

$$5\% \text{ of } 400$$

$$\frac{1}{20} \quad \text{\$ } 20$$

We can estimate a percent if we make the part and whole "nice" numbers.

Estimate the percent for $\frac{17}{30}$

Estimate the percent for $\frac{118}{491}$

Estimate the percent for $\frac{34}{88}$

Estimate the percent for $\frac{273}{716}$

Find $\frac{1}{3}\%$ of 3743

Find $\frac{3}{8}\%$ of 756

Find $\frac{1}{2}\%$ of 24,679

Find 0.23 % of 2783