

Wednesday, September 5, 2012

TISK Problems

1. Name all the sets to which $\sqrt{49}$ belongs.
2. Add: $\frac{4}{15} + \frac{7}{30}$
3. Write and solve an equation:
Alex is 8 years younger than Jessie. If Alex is 19 how old is Jessie?

We will have 3 Mental Math Questions today.

Homework: p. 402-403 #9-22 &24

OPTIONAL: #1-8

Pre-Algebra Book

- ▶ We will be working in the pre-Algebra book now until the end of the semester.

8–1 Relating Decimals, Fractions, and Percents

- ▶ What does *percent* mean?
 - Per–: for every
 - –cent: one hundred
 - Therefore, *percent* means “for every 100”
- ▶ So 36% means...?
 - 36 for every 100
 - 36% of people prefer cats to dogs
 - 36 out of every 100 people asked prefer cats to dogs

Converting to/from Percents

- ▶ Change a decimal to a percent
 - Decimals are written in powers of ten
 - $0.1 = \text{one TENTH}$
 - $0.1 = 0.10 = 10 \text{ HUNDREDTHS} = \frac{10}{100} = 10\%$
 - $0.01 = \text{one HUNDREDTH}$
 - $0.01 = \frac{1}{100} = 1\%$
 - $0.001 = \text{one THOUSANDTH}$
 - $0.001 = \frac{1}{1000} = \frac{0.1}{100} = 0.1\%$

You try it

- ▶ Convert each decimal to a percent.
 - 0.45
 - 45%
 - 0.08
 - 8%
 - 0.602
 - 60.2%
 - 0.99
 - 99%
 - 0.875
 - 87.5%
 - 1.03
 - 103%

Converting to/from Percents

- ▶ Fractions must be changed to have a denominator of 100.

- $\frac{4}{5}$

- $= \frac{4}{5} \cdot \frac{20}{20}$

- $= \frac{80}{100}$

- $= 80\%$

- $\frac{7}{8}$

- 8 doesn't go into 100! What do we do?

- Multiply by a decimal!

- $100 \div 8 = 12.5$

- $\frac{7}{8} \cdot \frac{12.5}{12.5} = \frac{87.5}{100}$

Converting to/from Percents

▶ $\frac{2}{3}$

- Now, 3 doesn't go into 100...
- ...and $100 \div 3$ is a repeating decimal
- So what do we do?
 - Divide and convert the fraction!
 - $2 \div 3 = 0.6666 \dots$
 - $= 66.\bar{6}\%$
 - $= 66\frac{2}{3}\%$

Some Common Repeating Decimals You Should Know!

▶ $0.\bar{3} = 0.3333 \dots = \frac{1}{3}$

▶ $0.\bar{5} = 0.5555 \dots = \frac{5}{9}$

▶ $0.\bar{6} = 0.6666 \dots = \frac{2}{3}$

▶ $0.\bar{7} = 0.7777 \dots = \frac{7}{9}$

▶ $0.\bar{1} = 0.1111 \dots = \frac{1}{9}$

▶ $0.\bar{8} = 0.8888 \dots = \frac{8}{9}$

▶ $0.\bar{2} = 0.2222 \dots = \frac{2}{9}$

▶ $0.1\bar{6} = 0.1666 \dots = \frac{1}{6}$

▶ $0.\bar{4} = 0.4444 \dots = \frac{4}{9}$

▶ $0.8\bar{3} = 0.8333 \dots = \frac{5}{6}$

You Try It

- ▶ Convert each fraction to a percent.

- $\frac{7}{25}$
 - 28%

- $\frac{4}{9}$
 - $44\frac{4}{9}\%$

- $\frac{11}{40}$
 - 27.5%

- $\frac{2}{15}$
 - $13\frac{1}{3}\%$

Homework

- ▶ Homework: p. 402–403 #9–22 & 24
- ▶ OPTIONAL: #1–8