

Name Key Period _____ Monday, February 12, 2018

Percents Review (On-Level)

1. There are 30 students in Mrs. Jones' class. Twenty percent of the students received an A on the last math test. How many students received an A?

$$\frac{x}{30} = \frac{20}{100}$$

$$20 \times 30 = 100x$$

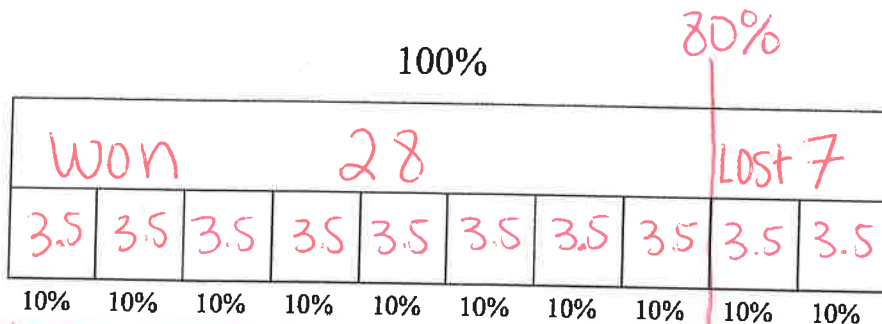
$$\frac{600}{100} = \frac{100x}{100}$$

$$6 = x$$

6 Students

2. A baseball pitcher won 80% of the games he pitched. If he pitched 35 ballgames, how many games did he win? Use percent bars to help you solve the problem.

$$10 \overline{) 35.0} \\ \underline{30} \\ 50$$



$$3.5 \times 8 = 28.0$$

won 28 games

3. Donovan took a math test and got 15 correct and 5 incorrect answers. What was the percentage of correct answers?

$$\frac{15}{20} = \frac{x}{100}$$

$$15 \times 100 = 20x$$

$$\frac{1500}{20} = \frac{20x}{20}$$

x = 75%

15 + 5 = 20 questions total

$$20 \overline{) 1500} \\ \underline{140} \\ 100$$

4. In a survey nine out of every ten people said they liked ice cream. What percent do NOT like ice cream?

$$\frac{1}{10} = \frac{x}{100}$$

10 - 9 = 1 does not like ice cream

$$x = 10$$

10%

5. Out of 75 students, 30 play in the band. What percent of the students play in the band?

$$\frac{30}{75} = \frac{x}{100}$$

x = 40%

$$75x = 30 \times 100 \\ 75x = 3000 \\ \frac{75x}{75} = \frac{3000}{75} \\ x = 40$$

$$75 \overline{) 3000} \\ \underline{300} \\ 00 \\ \underline{0} \\ 0$$

6. Only a portion of the land on Earth is farmland capable of growing food. In a particular region, 28% of the land is farmland. Express 28% as a fraction in simplest form.

$$28\% = \frac{28}{100} \div \frac{2}{2} = \frac{14}{50} \div \frac{2}{2} = \boxed{\frac{7}{25}}$$

7. Earth is made up of several different elements. Suppose a certain element makes up 8% of Earth. Express 8% as a decimal.

$$8\% = \frac{8}{100} = 0.08$$

↑ tenths ↑ hundredths

0.08

8. Express the decimal 0.6 as a percent and a fraction in simplest form.

$$0.6 = \frac{6}{10} \div \frac{2}{2} = \boxed{\frac{3}{5}}$$

0.60 → 60%

9. Express the fraction $\frac{2}{5}$ as a decimal and a percent.

$$\frac{2}{5} = \frac{2 \times 2}{5 \times 2} = \frac{4}{10} = \boxed{0.4 = 40\%}$$

10. A publisher estimates that 8 of every 50 books published become national best sellers. What percentage of the books do NOT become national best sellers?

$$\frac{42}{50} = \frac{42 \times 2}{50 \times 2} = \frac{84}{100}$$

$$50x = 42 \times 100$$

$$\frac{50x}{50} = \frac{4200}{50}$$

$$\begin{array}{r} 84 \\ 50 \overline{)4200} \\ \underline{-400} \\ 200 \end{array}$$

$$x = \boxed{84\%}$$

$$50 - 8 = 42 \text{ NOT}$$

11. Name the percent and decimal equivalent to $\frac{7}{20}$. Be sure to show your work.

Percent: 35%

Decimal: .35

$$\frac{7}{20} \times \frac{5}{5} = \frac{x}{100}$$

$$x = 35 = \text{decimal}$$

$$x = 35 = \text{percent}$$

$$\frac{35}{100} \rightarrow 35\%$$

12. The floor of a house is 80% covered by carpeting. Write the percent of the floor covered by carpeting as a decimal and as a fraction in simplest form. Show your work.

$$80\% = \frac{80}{100} \div 20 = \frac{4}{5}$$

$$80\% = \frac{80}{100} = 0.80$$

Tenths
Hundredths

0.8

13. Cactus plants survive in deserts by storing water in their thick stems. In fact, water makes up $\frac{3}{4}$ of the saguaro cactus's total weight. What percent of its weight is water?

$$\frac{3}{4} \times 25 = \frac{x}{100}$$

$$3 \times 25 = 75$$

$$x = 75$$

75%

14. It is reported that 3 out of every 10 students at Oakwood are car riders. What percentage of Oakwood students are NOT car riders?

$$10 - 3 = 7 \text{ not}$$

$$7 \times 10 = 70$$

$$\frac{7}{10} \times 10 = \frac{x}{100}$$

$$x = 70$$

70%

15. During a sale, everything in the store was $\frac{1}{5}$ off the ticketed price. What percent of an item's original price should you expect to pay?

$$\frac{5}{5} - \frac{1}{5} = \frac{4}{5} \text{ not}$$

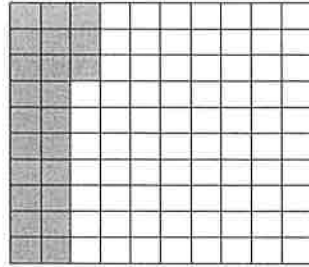
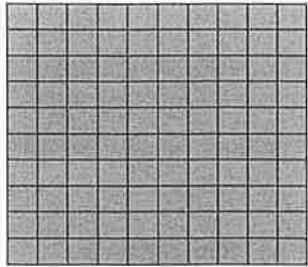
$$\frac{4}{5} \times 20 = \frac{x}{100}$$

$$4 \times 20 = 80$$

$$x = 80$$

80%

16. Use the model below to name how much is shaded as a fraction, decimal and percent. Make sure to simplify the fraction.



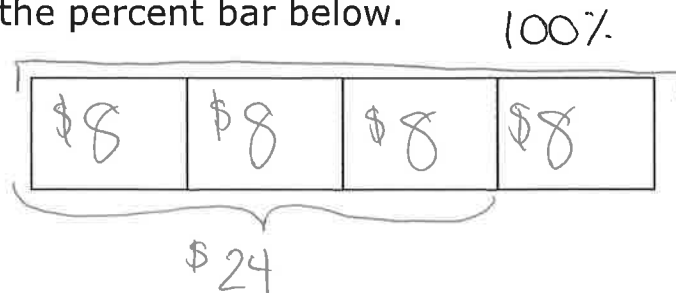
How much is shaded?

F: $1\frac{23}{100}$ D: 1.23 P: 123%

How much is not shaded?

F: $\frac{77}{100}$ D: 0.77 P: 77%

17. A shirt is on sale for \$24. This is 75% of the original price. Find the original price using the percent bar below.



$8 \times 4 = 32$
 $32 =$ the total cost

$\$32$

18. Match the rational number with the correct point on the number line. **Some points may be used more than once.**

U 0.9 V 140%

S 20% T $\frac{11}{20}$

U 90% V $1\frac{2}{5}$

S $\frac{1}{5}$ T 55%

S .2 U .9

