**LESSON 14-NOTES**

**PERCENT WORD PROBLEMS**

**PERCENT**—A RATIO THAT COMPARES A NUMBER TO 100.

EX: IF YOU HAVE 100 MARBLES AND 25 OF THEM ARE BLUE, THEN 25% OF THE MARBLES ARE BLUE.

EX: IF YOU USED 150 OUT OF 200 POSTCARD STAMPS, THEN YOU USED 75% OF YOUR STAMPS.

|  |  |  |
| --- | --- | --- |
| **PERCENT** | **FRACTION** | **DECIMAL** |
| 25% |  |  |
|  | 2/100 |  |
|  |  | 0.7 |

**THE PERCENT PROPORTION**:

$\frac{IS}{OF}$ = $\frac{\%}{100}$

**FIND THE TOTAL WHEN PERCENT IS KNOWN:**

EX: A CLASS VOTED ON HOW TO DONATE MONEY THEY RAISED FOR CHARITY.

 THE TABLE BELOW SHOWS WHAT THEY DECIDED.

 **MONEY FOR CHARITY**

|  |  |
| --- | --- |
| PRESCHOOL | 20% |
| HUMANE SOCIETY | 10% |
| TOWN CONSERVATION | 30% |
| SOUP KITCHEN | 40% |

THE NEWSPAPER REPORTS THAT THE CLASS DONATED $165 TO THE TOWN CONSERVATION FUND. HOW MUCH MONEY DID THE CLASS RAISE?

 $\frac{165}{X}$ = $\frac{30}{100}$

**FIND THE PERCENT OF A NUMBER:**

EX: THERE ARE 30 STUDENTS IN CHOIR. 20% OF THESE STUDENTS ARE ALSO

 IN BAND. HOW MANY STUDENTS ARE IN BAND AND CHOIR?

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

**FIND WHAT PERCENT ONE NUMBER IS OF ANOTHER:**

EX: RECENTLY STUDENTS AT HARPER MIDDLE SCHOOL WERE POLLED IN A SURVEY CONCERNING SCHOOL UNIFORMS. 350 OF THE STUDENTS SURVEYED DO NOT WANT TO WEAR UNIFORMS, 150 OF THE STUDENTS SURVEYED WANT TO WEAR UNIFORMS,AND 125 ARE STILL UNDECIDED. WHAT PERCENT OF THE STUDENTS ***DO NOT*** WANT UNIFORMS?

 $\frac{350}{625}$ = $\frac{X}{100}$

**LESSON 14-NOTES—STUDENT COPY**

**PERCENT WORD PROBLEMS**

**PERCENT**—\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

EX: IF YOU HAVE 100 MARBLES AND 25 OF THEM ARE BLUE, THEN\_\_\_\_\_\_ OF THE MARBLES ARE BLUE.

EX: IF YOU USED 150 OUT OF 200 POSTCARD STAMPS, THEN YOU USED\_\_\_\_\_\_ OF YOUR STAMPS.

|  |  |  |
| --- | --- | --- |
| **PERCENT** | **FRACTION** | **DECIMAL** |
| 25% |  |  |
|  | 2/100 |  |
|  |  | 0.7 |

**THE PERCENT PROPORTION**:

**FIND THE TOTAL WHEN PERCENT IS KNOWN:**

EX: A CLASS VOTED ON HOW TO DONATE MONEY THEY RAISED FOR CHARITY.

 THE TABLE BELOW SHOWS WHAT THEY DECIDED.

 **MONEY FOR CHARITY**

|  |  |
| --- | --- |
| PRESCHOOL | 20% |
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THE NEWSPAPER REPORTS THAT THE CLASS DONATED $165 TO THE TOWN CONSERVATION FUND. HOW MUCH MONEY DID THE CLASS RAISE?

**FIND THE PERCENT OF A NUMBER:**

EX: THERE ARE 30 STUDENTS IN CHOIR. 20% OF THESE STUDENTS ARE ALSO

 IN BAND. HOW MANY STUDENTS ARE IN BAND AND CHOIR?

**FIND WHAT PERCENT ONE NUMBER IS OF ANOTHER:**

EX: RECENTLY STUDENTS AT HARPER MIDDLE SCHOOL WERE POLLED IN A SURVEY CONCERNING SCHOOL UNIFORMS. 350 OF THE STUDENTS SURVEYED DO NOT WANT TO WEAR UNIFORMS, 150 OF THE STUDENTS SURVEYED WANT TO WEAR UNIFORMS,AND 125 ARE STILL UNDECIDED. WHAT PERCENT OF THE STUDENTS ***DO NOT*** WANT UNIFORMS?

**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Class\_\_\_\_\_**

**LESSON 14: PERCENT WORD PROBLEMS**

**NWNC!!**

**show set up and solve:**

1. On a math test, Miranda got 17 out of 20 math \_\_\_\_\_\_\_\_\_\_\_\_

 problems correct. What percent of the problems

 were correct?

2. About 60% of the human body is water. At this \_\_\_\_\_\_\_\_\_\_\_\_

 rate, how many pounds of water are in the

 body of a 95-pound person?

3. Last semester, 150 students at Jungle Junior High \_\_\_\_\_\_\_\_\_\_\_\_

 made the “A” honor roll. This was 15% of the

 students. How many students are enrolled at

 Jungle Junior High?

4. Sharon has collected 14 out of 35 reward stamps. \_\_\_\_\_\_\_\_\_\_\_\_

 What percent of the stamps does she still need?

5. At Marble Middle School, 35% of the students \_\_\_\_\_\_\_\_\_\_\_\_

 are 6th graders, 32% are 7th graders, and the rest

 are 8th graders. What percent are 8th graders?

6. Approximately 40% of the puppies at Pretty’s Pet \_\_\_\_\_\_\_\_\_\_\_\_

 Store are male. If there were 12 male puppies at

 the store, how many total puppies were there?

**Fill in the following table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Problem #** | **Decimal** | **Percent** | **Fraction** |
| **7.** | **0.35** |  |  |
| **8.** |  | **68%** |  |
| **9.** |  |  | **5/8** |
| **10.** | **1.2** |  |  |
| **11.** |  | **25%** |  |
| **12.** |  |  | **1/2**  |
| **13.** | **0.75** |  |  |

**Solve finding the unit rate:**

14. 6 candy bars for $3.20 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ per candy bar

15. 450 miles with 30 gallons = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ miles per gallon

Solve:

16. What 2 steps are necessary in order to solve a proportion?

 1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17. $\frac{3}{7}$ = $\frac{X}{84}$ 18. $\frac{3}{2}$ = $\frac{9}{X}$

 \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

Solve the following integer problems:

19. 3 – 10 + 4 + 8 – 13 = \_\_\_\_\_\_\_\_\_\_

20. -4 – 8 + 3 – 7 + 15 – 6 + 2 = \_\_\_\_\_\_\_\_\_\_