**UNIT 4: Percentage**

***TOPICS:***

* 4.1 Percents as Fractions and Decimals
* 4.3 Estimating Percents
* 4.4 Using Percents to Make Comparisons
* 4.5 Calculating with Percents
* 4.6 Solving Problems that Involve Decimals
* 4.7 Solve Problems Using Logical Reasoning

**4.1 Percents as Fractions and Decimals**

**% means or out of 100.**

Ex. 1) Write each percentage as a fraction in lowest terms.

1. 30% = b.) 18% = c.) 64% =

Ex. 2) Write each percentage as a decimal.

1. 95% = b.) 5% = c.) 12.5% =

Ex. 3) Order from greatest to least.

1. 🡪 b.) 🡪

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**4.3 Estimating Percents**

**Benchmark** – the comparison you use to estimate.

Ex. 1) Estimate each percentage.

1. 24% of 81.5 🡪 b.) 68% of $30 🡪

c.) 19% of 19.8 🡪 d.) 79% of 112 🡪

e.) 19 out of 26 🡪 f.) 32 out of 93 🡪

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**4.4 Using Percents to Make Comparisons**

Percentages are a good way to compare numbers. For each question below, compare using percentages.

Ex. 1) Jill won 12 out of 30 games and Jen won 7 out of 20. Who won a greater percentage of games?

Ex. 2) Order the fractions from greatest to least using percentage.

Ex. 3) Tommy put $1200 into a bank and at the end of the year had $1320. Jill put $500 and had $525 at the end of the year. Who got the better interest rate?

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**4.5 Calculating with Percents**

Ex. 1) Evaluate

1. 40% of 50 = b.) 30% of 200 = c.) 80% of 150 =

Ex. 2) Find the missing value

1. 50% of \_\_\_\_\_\_ = 32 b.) 25% of \_\_\_\_\_\_ = 22 c.) 15% of \_\_\_\_\_ = 45

Ex. 3) Tommy received 20% off a pair of jeans that regularly cost $45. How much did they cost before taxes?

Ex. 4) Johnny paid a bill for $150 for two pairs of pants. They cost $180 at full price. What was the discount?

Ex. 5) Jill works in a clothing store. She gets paid $50 per day plus 5% of all clothing sales. On Sunday she sold $1200. How much did she make?

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**4.6 Solving Problems that Involve Decimals**

**Calculating Commission**

Ex. 1) Tony gets paid $150 a day plus 2% commission on the sale of all cars he sells. On a Saturday he sold two cars for a total of $45000. How much did he make that day?

**Calculating the percentage**

Ex. 2) Adam earned $30 commission after selling $1500 in clothing. What percent commission does he earn?

**Calculating the discount**

Ex. 3) Ben bought a shirt for 20% off. Its regular price is $24. How much did he pay for the shirt?

**Calculating the tax**

Ex. 4) Charlette bought $240 worth of computer equipment. How much did she pay in taxes? (Taxes = 12%)

**Calculating total costs**

Ex. 5) Daniel bought a computer that has a regular price of $1200 but was marked down 20%. How much did he pay for the computer including tax? (Taxes = 12%)

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**4.7 Solve Problems Using Logical Reasoning**

Ex. 1) 15 of the students in the group had pizza on the weekend. This represents 40% of the group. How many students are in the group?

Ex. 2) What is the savings if there was a 15% discount on a car that sells for $22000?

Ex. 3) Usain Bolt ran the 100m dash in 9.58s. This is about 38 km/h. You can run about 18 km/h. What percentage of Usain Bolt’s speed can you run?

Ex. 4) Your boss offers you one of two raises. In option A, you get a 50% raise today. In option B, you get a 30% raise now, then a further 20% later. Which raise is better or does it not matter?

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