**Percent - Fraction - Decimal Landscape of Problems VII - X**

**Word Problem Types**

*3 Dimensions: Objective, Application, Number Variation*

1. Read a decimal number *properly*. (2.03 is “two and three hundredths”)

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|  | Decimal part only | “Mixed” | Decimal part includes zeros immediately to the right of the decimal |
| Read .62 | Read 5.6 | Read 5.002 |
| Read the decimal number | In the video game, the character’s *health* is .47. Read this decimal. | The weight of the gold was 2.36 ounces. Read this decimal. | After investing money in the mutual fund, Karen owned 67.031 shares of the mutual fund. Read this decimal. |

1. Convert fractions (and mixed numbers) to decimals and to percents.

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|  | Terminates  | Repeats  | Decimal less than .01(Percent less than 1%) | Decimal greater than 1(Percent greater than 100%) |
| $$\frac{3}{8}=.375=37.5\%$$ | $$\frac{2}{3}=.\overbar{6}=66.\overbar{6}\%$$ | $$\frac{1}{400}=.0025=.25\%$$ | $$\frac{60}{25}=2.4=240\%$$ |
| Convert fractions (and mixed numbers) to decimals | Express $\frac{4}{5}$ as a decimal. | Thirty-six of forty students passed the fitness test on their first attempt $\left(\frac{36}{40}\right)$. Express this fraction as a decimal. | Willie has 4 hits in 11 at-bats $\left(\frac{4}{11}\right)$. What is Willie’s batting average? Round the decimal to three places. | In the blood test 3 mg of the drug were found in 400 mg of blood $\left(\frac{3}{400}\right)$. Convert this fraction to a decimal. | One serving is 4 ounces. We have 10 ounces. Express the fraction $\frac{10}{4}$ as a decimal to state how many servings we have. |
| Convert fractions (and mixed numbers) to percent | Express $\frac{4}{5}$ as a percent. | The fraction of students with a Facebook account is $\frac{56}{80}$. What percent have a Facebook account? | The probability of rolling a 7 with two dice is is $\frac{6}{36}$. What is the percent chance of rolling a 7? (Round to one decimal place in the percent, if needed.) | Only 3 children out of every 1,500 births have the rare disease $\left(\frac{3}{1500}\right)$. What percent of children are born with the rare disease? | The normal capacity of the stadium is 5000. The big game has 6000 fans present. Express the fraction $\frac{6000}{5000}$ as a percent. |

1. Convert decimals to fractions (or mixed numbers) and to percents.

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|  | One or two places to the right of the decimal with no reducing required | One or two places to the right of the decimal with reducing required | Three or more places to the right of the decimal | Decimal less than .01(Percent less than 1%) | Decimal greater than 1(Percent greater than 100%) |
| $$.3=30\%=\frac{3}{10}$$ | $$.88=88\%=\frac{22}{25}$$ | $$.145=14.5\%=\frac{29}{200}$$ | $$.0025=.25\%=\frac{1}{400}$$ | $$2.4=240\%=2\frac{2}{5}$$ |
| Convert decimals to fractions or mixed numbers | $$2.3=2\frac{3}{10}$$ | The piece of wood is to be cut to .7 inches. What is this as a fraction? | The food label says that .14 of the calories are from protein. What fraction of the calories are from protein? | Pam’s batting average is .365. Express this as a proper fraction or mixed number in lowest terms. | Last year only .0005 of the people were in a town hit by a tornado. What fraction of people were in a town hit by a tornado? | On Tuesday, Kevin ate 1.15 of his normal daily allowance of calories. Express this as a proper fraction or mixed number in lowest terms.  |
| Convert decimals to percents | $$.3=30\%$$ | The Bears won .78 of their games. What is their winning percentage? | NA | Kylie scores a goal on .095 of her shots. What is her shooting percentage? | At the airport, .002 of the passengers requested a wheelchair. What percent requested a wheelchair?  | The Mark Twain candy sales made 1.45 of their goal. What percent of their goal did they achieve?  |

1. Convert percents to decimals and to fractions (or mixed numbers).

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|  | Whole number percent with no reducing required | Whole number percent with reducing required | Percent with a decimal part | Percent less than 1% | Percent greater than 100% |
| $$30\%=.3=\frac{3}{10}$$ | $$88\%=.88=\frac{22}{25}$$ | $$14.5\%=.145=\frac{29}{200}$$ | $$.25\%=.0025=\frac{1}{400}$$ | $$240\%=2.4=2\frac{2}{5}$$ |
| Convert percents to decimals | 45% = .45 | 57% of the student body was in favor of the dress code. Express this as a decimal. | NA | The price increased by 20.4%. What is the increase as a decimal? | The jewelry with gold leaf accents was 0.02% gold. What is this as a decimal? | With extra credit, Steph scored 105% on the test. Express this as a decimal. |
| Convert percents to fractions or mixed numbers | $$.45=\frac{9}{20}$$ | Bill’s free throw percentage was 81%. Express this as a proper fraction or mixed number in lowest terms. | 84% of Pam’s money is in her savings account. Express this as a proper fraction or mixed number in lowest terms. | 12.5% of the cars are made by Chrysler. Express this as a proper fraction or mixed number in lowest terms. | After using the hand sanitizer, 0.011% of the germs remain. Express this as a proper fraction or mixed number in lowest terms. | Kevin lifted 110% of his previous best in the bench press. Express this percent as a proper fraction or mixed number in lowest terms. |