

Math351

Practice Exam #03

1. Use your calculator to simplify the following. Round your answers to the nearest hundredth.

a) $(1.26 - 0.25)^2$ b) $0.23 + (0.26 - 0.23)$ c) $-0.24 - (3.25 - 4.21)$

2. What number must be subtracted from -0.253 to obtain -4.268?

4.015

3. Calculate. Round your answer to the nearest thousandths.

a) $2.1(3.2 - 2.3)^3$ b) $\frac{2(1.23)^2}{123}$ c) $\frac{3.2(\sqrt{6.25} - 1.3)}{2.5 + 0.02}$

4. Change each fraction to a decimal. Use your calculator. Round to the nearest thousandths.

a) $\frac{27}{69}$ b) $\frac{106}{34650}$ c) $\frac{35}{13}$

5. Change each decimal to a fraction. Reduce to lowest terms.

a) 0.75 b) 0.125 c) 0.104

6. **(Ratio Video)** Write the following ratios as a reduced fraction

a) 8 to 6 b) $\frac{5}{3}$ to $\frac{7}{6}$ c) 0.3 to 0.7 d) $\frac{3}{5}$ to 0.4

e) 0.36 to 0.62 f) 0.3 to 0.21

7. **(Ratio Video)** A car travels 200 miles in 4 hours. What is the rate of the car in miles per hour?

$50 \frac{mi}{hr}$

8. **(Ratio Video)** A car travels 200 miles in 8 gallons of gas. What is the fuel consumption rate of this car in miles per gallon?

$25 \frac{mi}{gal}$

9. **(Ratio Video)** A truck travels 375 miles in 8 hours. What is the rate of the truck in miles per hour to the nearest hundredth?

$46.88 \frac{mi}{hr}$

10. **(Ratio Video)** A 20 ounce cup of coffee costs \$1.75. What is the cost per ounce of this cup of coffee to the nearest cent?

$9 \frac{cents}{ounce}$

11. **(Proportion Video)** Solve for x.

a) $\frac{x}{6} = \frac{2}{3}$ $x = 4$ b) $\frac{x}{4} = \frac{5}{3}$ $x = \frac{20}{3}$ c) $\frac{x}{6} = \frac{2}{\frac{3}{4}}$ $x = 16$ d) $\frac{2x}{5} = \frac{0.3}{4}$ $x = 0.1875$

e) $\frac{0.1x}{0.4} = \frac{0.3}{1.4}$ $x = \frac{6}{7}$ f) $\frac{\frac{2}{3}}{x} = \frac{\frac{3}{4}}{5}$ $x = \frac{40}{9}$

12. **(Percent Video)** Answer the following:

a) Write 13% as a decimal. 0.13 b) Write 2.3% as a decimal. 0.023

c) Write 2.3% as a fraction. $\frac{23}{1000}$ d) Write 312% as a fraction. $\frac{78}{25}$

e) Write 2.3 as a percent. 230% f) Write 0.025 as a percent. 2.5%

13. **(Percent Video)** Write each fraction as a percent.

a) $\frac{3}{5}$ 60% b) $\frac{15}{4}$ 375% c) $\frac{7}{8}$ 87.5%

14. **(Percent Video)** Write each fraction as a percent. Round your solution to the nearest tenth of a percent.

a) $\frac{6}{7}$ 85.7% b) $\frac{247}{365}$ 67.7% c) $\frac{9}{217}$ 4.1%

15. Solve for x. Write your answer as a reduced fraction.

a) $\frac{3}{5} = \frac{2}{x}$ $x = \frac{10}{3}$ b) $\frac{x+3}{5} = \frac{1}{2}$ $x = -\frac{1}{2}$ c) $\frac{\frac{1}{2}}{x} = \frac{\frac{2}{3}}{6}$ $x = \frac{9}{2}$

16. **(Percent Applications 1 Video)** Solve the following:

a) What number is 50% of 400?

$$200$$

b) What percent of 50 is 32?

$$64\%$$

c) What percent of 56 is 32?

$$57.14\%$$

d) 16% of what number is 42?

$$262.5$$

e) What is 38% of 14?

$$5.32$$

f) $\frac{4}{7}$ is what percent of $\frac{5}{8}$?

$$91.43\%$$

17. **(Percent Applications 2 Video)** Solve the following.

a) The population of a large city is 60% female. If the total population of the city is 584,855 people, how many females are in this population?

b) At a Community College, suppose 32% of a graduating class took statistics. If 360 students from this graduating class took statistics, how many students are in this graduating class?

c) A sales clerk has a certain commission rate. A recent paycheck showed the amount of commission earned was \$985.23. The total sales for the clerk during this pay period was \$6568.20. What is the commission rate?

d) The total price paid for a refrigerator was \$1,244.85. The price tag indicates a sales price of \$1,158.00. What is the sales tax rate?

e) A retail store offers a 35% discount on a microwave oven. The price before the discount was \$159.99? How much is the discount and what is the new sales price?

18. The yearly tuition at a college is presently \$3,000. Next year it is expected to increase by 17%. What will the tuition at this school be next year? (Note: $I = PRT$)

19. A farmer borrows \$12,500 from his local bank at 8.5% compounded quarterly. How much does he pay back to the bank after three years when he pays off the loan? Note:

$$A = P \left(1 + \frac{r}{n} \right)^{nt}$$