

Math 172 Review for Exam 1 (Ch. 7 & 8)

- Determine which of the following fractions have a terminating decimal representation. Explain how you can tell this without using a calculator.
 - $\frac{17}{78}$
 - $\frac{2^3}{2^7 \cdot 5^3}$
 - $\frac{7}{32}$
- Express each of the following in all three forms: fraction, decimal and percent.
 - 52%
 - 1.25
 - $\frac{17}{25}$
- Express each decimal as a fraction in simplest form:
 - $0.\overline{36}$
 - $0.3\overline{6}$
 - 0.3636
- Calculate using fraction equivalents or mental math techniques (properties, compensation, etc). Show or describe your method.
 - $(0.25 \times 12.3) \times 8$
 - $1.3 \times 2.4 + 2.4 \times 2.7$
 - $15.73 + 2.99$
 - $27.51 - 19.98$
- Estimate using the techniques given.
 - Range: $2.51 \times 3.29 \times 8.07$
 - Front end with adjustment: $2.51 + 3.29 + 8.2$
 - Rounding to the nearest tenth: $8.549 - 2.352$
 - Rounding to compatible numbers: $421.7 \div 52.937$
- Determine which of the following fractions have repeating decimals. For those that do, express them as a decimal with a bar over their repetend.
 - $\frac{5}{13}$
 - $\frac{132}{333}$
 - $\frac{7}{125}$
- Model the following using 10×10 decimal squares:
 - $0.3 \times 0.4 = 0.12$
 - $0.24 \div .06 = 4$
 - $0.5 + 0.32 = 0.82$
- Arrange the following from smallest to largest:
 - 0.5, 0.505, 0.5005, 0.55
 - $\frac{1}{3}, 0.3, 3\%, \frac{2}{7}$
- Dr. Fjeldsted has 91 students in his first-quarter calculus class. If the ratio of math majors to non-math majors is 4 to 9, how many math majors are in the class?
- A refrigerator was on sale at the appliance store for 20% off. Marcus received a coupon from the store for an additional 30% off any current price in the store. If he uses the coupon to buy the refrigerator, the price would be \$487.20 before taxes. What was the original price?
- Estimate using fraction equivalents.
 - $23\% \times 81$
 - $32\% \times 59$

12. Which is the better buy? Explain.
- 7 pounds for \$3.45 or 11 pounds for \$5.11
 - 58 cents for 24 oz or 47 cents for 16 oz
13. A family uses 5 gallons of milk every 3 weeks. At that rate, how many gallons of milk will they need to purchase in a year's time?
14. A fishing crew is paid 43% of the value of their catch.
- If they catch \$10,500 worth of fish, what is the crew paid?
 - If the crew is paid \$75,000 for a year's work, what was the total catch worth?
15. A bookstore has a spring sale. All items were reduced by 20%. After the sale, prices were marked up 20% over the sale price. How do prices after the sale differ from prices before the sale?
16. Illustrate the following operations using a (i) number line, and (ii) black and red chips (label chips with (+) or (-)).
- $8 + (-3)$
 - $-5 + 3$
17. Demonstrate how you would show each of the following using black and red chips. Draw a sketch and label chips with (+) and (-).
- $8 - (-5)$
 - $(-2) - (-7)$
18. Represent the following products using black and red chips and give the results.
- $3 \times (-2)$
 - $(-3) \times (-4)$
19. Fill in the blanks with the appropriate symbol, $<$, $>$ or $=$, to produce true statements.
- -4 _____ -5
 - $3 + (-5)$ _____ $2 \times (-3)$
 - $(-12) \div (-2)$ _____ $(-2) - (-3)$
 - $15 - (-6)$ _____ $(-3) \times (-7)$
 - $5 + (-8)$ _____ $(-4) + 3$
20. If a and b are negative and c is positive, determine whether the following are negative or positive.
- $(-a)(b)$
 - $a(b - c)$