Name _____ Date 5/15/08

36.5/50 = 73% = C.

CHAPTER 7 TEST

Vocabulary: Match each vocabulary word on the left with the best example on the right.

1. Proportion
2. Ratio
3. Unit Rate
4. Rate

a. A car travels 35 miles per hour

b. There are 4 marshmallow bits for every 15 pieces of cereal in Lucky Charms

c. If there are 50 calories in one cookie, then there would be 1000 calories in a package of 20 cookies

d. Eric can eat 5 pieces of pizza for every 2 that Jessica eats.

(-3)

average

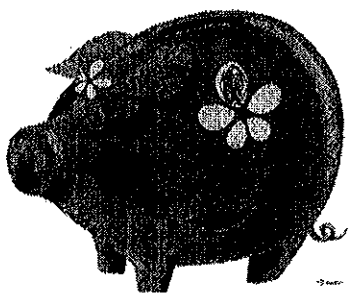
43/50 = 87% = B

Identify the interest, principle, rate and time in the following word problem. DO NOT try to solve the problem!

When Sophie was eleven, she received a magic piggy bank for her birthday. She put $125 that she had saved into her bank. When she took it out on her fifteenth birthday, there was $140 in the magical piggy. Sophie, being the ever curious child we know her to be, said, "I remember this kind of problem from 7th grade math! I can calculate the rate of interest using the formula I = prt." She put her thinking cap on, dug out her old calculator which she hadn't used in years because of her amazing mental math abilities, and set to work. She substituted in to her equation and came up with .03. "That's just not a reasonable answer," Sophie said. "I must have done something wrong." At that same instant Aaron happened to walk by and noticed Sophie hard at work. He immediately knew what the problem was. "Sophie," he said, "you have to change the decimal into a percent." "Silly me!" said Sophie, and she quickly wrote "3%" instead of .03. "Thank you Aaron! Mystery solved!" And they both lived happily ever after, but not necessarily together!

5. I = 125 15
6. p = 140 125
7. r = 3%
8. t = 4

(-2)



Write an equivalent rate.

9. $\frac{60\text{ beats}}{1\text{ minute}} = \frac{?\text{ beats}}{1\text{ hours}}$

10. $\frac{\$5.70}{1\text{ yd}} = \frac{?}{1\text{ ft}}$

11. A store is advertising baby food for %3 for 5 jars. What is the unit price?

36.5
6.0
42.5

Solve the proportion. DO NOT cross multiply!

12. $\frac{21}{12} = \frac{d}{20}$

13. $\frac{e}{9} = \frac{110}{75}$

14. $\frac{18}{f} = \frac{15}{10}$

13. You can earn $34 babysitting 4 children. At this rate, what would you charge for 3 children?

14. A map uses a scale of 3 cm : 15 km. The distance from Rome to Elmira is 17 centimeters on the map. How far apart are the two towns?

Solve using either a proportion or by translating words.

15. 36 is what % of 240?

16. 462 is 110% of what number?

Write the percent as a decimal and a fraction

17. 6%

18. 310%

19. .5%

Write the decimal or fraction as a percent

20. 0.025

21. $\frac{275}{500} = \frac{55}{100}$

9) $\frac{60 \text{ beats}}{1 \text{ minute}} \cdot \frac{60 \text{ minutes}}{1 \text{ hour}} = \boxed{\frac{3600 \text{ beats}}{1 \text{ hour}}}$

10) $\frac{\$15.70}{1 \text{ yd}} \cdot \frac{1 \text{ yd}}{13 \text{ ft}} = \boxed{\frac{\$1.90}{1 \text{ ft}}}$

11) $\frac{3}{100} \cdot 5 = \frac{3}{100} \cdot \frac{5}{1} \quad \frac{3}{20}$ (.2)

The unit price is .15¢.

12) $\frac{20}{1} \cdot \frac{21}{12} = \frac{d}{20} \cdot 20$

$\frac{20}{1} \cdot \frac{21}{12} = d$

$\frac{420}{12} = d$

$\boxed{35 = d}$

13) $9 \cdot \frac{e}{9} = \frac{110}{75} \cdot 9$

$e = \frac{110}{75} \cdot \frac{9}{1}$

$e = \frac{990}{75}$

$e = 13.2 = \frac{19}{125}$

14) $18 \cdot \frac{18}{f} = \frac{15}{10} \cdot \frac{18}{1}$ 18 is not the LCD $\frac{18}{f} = \frac{18}{102}$

$f = \frac{270}{10}$ (1 ½) $2f \cdot \frac{18}{f} = \frac{3}{2} \cdot 2f$

$f = 27$ $2 \cdot 18 = 3f$

13) Let x = what you would charge for 3 kids.

$\frac{3}{1} \cdot \frac{34}{4} = \frac{x}{3} \cdot 3$

$\frac{102}{4} = x$

$25.5 = x$

You would charge $25.50 fro 3 kids.

60 × 60 = 3600

$3 \overline{)5.70}$ = 1.9

175 + 75 = 156

$20 \overline{)3.00}$ = .15

275 × 3 = 225

11 × 9 = 990

$75 \overline{)990.0}$ = 13.2

20 × 21 = 420

415 × 18 = 270

20 × 21 = 420

$4 \overline{)102.0}$ = 25.4

$12 \overline{)420}$ = 35

8.40 × 4 = 35.60

$4 \overline{)34.0}$ = 8.60

34 × 3 = 102

14) Let x = how far apart the two towns are

$3\overline{)17} = 5 \quad = \frac{17cm}{x\ km}$

$15 \cdot 5$

$75 + 2cm$

85 km

They are 85 km apart

15) $100 \cdot 36 = \frac{x}{100} \cdot 100 \cdot 240$

$\frac{3600}{240} = \frac{x \cdot 240}{240}$

$10.5 = x$

division error $(-\frac{1}{2})$

16) $100 \cdot 462 = \frac{110}{100} \cdot 100 \cdot x$

$\frac{46200}{110} = \frac{110 \cdot x}{110}$

$420 = x$

17) $17.6\% \quad .176 = \frac{176}{1000} = \frac{88}{500} = \frac{44}{250} = \frac{22}{125} =$

18) $310\% = 3.10 = \frac{310}{100} = \frac{31}{10}$

19) $.5\% = .005 = \frac{5}{100} = \frac{1}{20}$

20) 2.5%

21) $\frac{275}{500} = \frac{55}{100} = 53\%$ division error $(-\frac{1}{2})$

$25 \times 5 = 75$

$240\overline{)3000.0} = 10.5$; 240; 1200; 0; 12000

$240 \times 5 = 1200$

$110\overline{)46200} = 420$; 440; 220; 220; 00

$110 \times 4 = 440$

Name [redacted] Date 5/13/08

Chapter 7 Test

Solve the following problems. Remember to use let statements, write and solve equations, and write a word answer. You may use your calculator.

22. A toy store buys video games at a wholesale price of $18.75. It marks up each game 60%. A customer has a coupon for 10% off a video game. How much will a video game cost with the coupon?

23. You deposit $520 in a savings account. The account pays simple interest of 3.25%. How much interest will you earn in three years? How much money will be in your account at the end of three years?

22) Let x = wholesale price w/ markup

18.75 + 60 15 -

(-3)

23) Let x = how much interest you will earn in 3 years

$520 = 3 \cdot .0325 \cdot p$

$\frac{520}{.0975} = \frac{.0975 \cdot p}{.0975}$ (-1)

5,333.33 = p

you will learn 5,333.33 of interest in 3 years

Let x = how much money will be in your account at the end of 3 years

5,333.33 + 520 = x

5853.33 = x

you will have 5,853.33 at the end of 3 years

Test Corrections

2. Ratio-d

D is a ratio because a ratio uses division to compare 2 quanities and d shows that because there both the same units

3. unit rate-a

A is a unit rate because it's $\frac{35}{1}$ and a unit rate is where the denominater is 1.

4. rate-b

B is a rate because a rate is a ratio of 2 quanities that have different units and b would be $\frac{50\text{cals}}{1\text{cookie}}$ and $\frac{1000\text{cals}}{20\text{cookies}}$ and thats a unit rate.

5. I=15

what I did wrong was I put 125=I and really I=140-125 because you take the money you had at the end and then subtract what you started with from 140 and that = the interest

6=p=125

I put 140 as p and that's not the principle because the principle is how much $ you started with and she started with 125 not 140.

11) $5 \cdot \frac{3.5}{5} = x \cdot 5$

$\frac{3.3}{5} = \frac{x5}{5}$

$.6 = x$

$\$.60 = x$

The unit price is .60¢.

I set up the problem wrong thats why I got it wrong. I should have set it up like this the first time.

14) $\frac{18}{f} = \frac{15}{10} \cdot f$

$10 \cdot 18 = \frac{15f}{10} \cdot 10$

$\frac{1800}{15} = \frac{15f}{15}$

$120 = f$

I did it wrong because I tried to get rid of the 18 first when really I should have gotten rid of the f.

15) $\frac{360}{100} = \frac{x}{100} \cdot 240$

$\frac{3600}{240} = \frac{x \cdot 240}{240}$

$15 = x$

It was wrong because I divided 3600 ÷ 240 wrong because I got 10.5 when it was really 15.

21) $\frac{275}{500} = \frac{55}{100} = 55\%$

It was wrong because I divided 275 ÷ 5 = 53 when it was really 55.

22) Let x=markup price I didn't get how to set it up.

$\frac{60}{100} \cdot \$18.75 = \frac{1125}{100} = 11.25$

$18.75 + 11.25 = \$30$

Let r=amount after discount

$\frac{10}{100} \cdot \frac{30}{1} = \frac{300}{100} = \$3$

$30 - 3 = \$27$

The video game will cost $27 with the coupon

Let I=how much interest you will earn in 3 years

23) $I = 3 \cdot .0325 \cdot 520$

$I = 50.7$ I put the principle as the interest

you will earn $50.7 of interest in 3 years

Let x=how much money will be in your account at the end of 3 years

$\$50.7 + 520 = x$

$\$570.7 = x$

you will have $570.70 at the end of 3 years.