Math 8: Percent, Ratio and Rate Test Review

Test is: _____

The answers will be posted to Ms. MacLeod's website.
www.msmacleod05.weebly.com

Name: Answer Key

1. Fill in the following table.

Fraction (10, 100, 1000 or 10,000 as demonimator/whole number numerator), then simplify	Decimal	Percent	Fractional Percent (most reduced)
$\frac{188}{100} = 1\frac{22}{25}$	1.88	188%	
$\frac{0.45 \times 100}{100 \times 100} = \frac{45 \div 5}{10000 \div 5} = \frac{9}{2000}$	0.0045	0.45%	$\frac{45}{100}\% = \frac{9}{20}\%$
$\frac{6.49 \times 100}{100 \times 100} = \frac{649}{10000}$	0.0649	6.49%	$6\frac{49}{100}\%$
$\frac{14}{1000}$	0.014	1.4%	$1\frac{4}{10}\% = 1\frac{2}{5}\%$
$\frac{87.5 \times 10}{100 \times 10} = \frac{875 \div 125}{1000 \div 125} = \frac{7}{8}$	0.875	87.5%	$87\frac{1}{2}\%$

2. The record for the longest Snapchat streak is 2494. If your streak is 75% less than the record, what is your Snapchat streak (round answer down)?

$2494 \times 0.75 = 1870.5$

$2494 - 1870.5 = 623.5 \rightarrow$ **Streak = 623**

3. When the Mahone Bay Christmas Craft Fair first began, 550 people attended. This year there were only 300 people who attended. What is the **percent decrease** in attendance since this began? Round your answer to 2 places after the decimal (nearest hundredth)

$$\%\ \text{decrease} = \frac{\text{decrease}}{\text{original}} \times 100 = \frac{550 - 300}{550} \times 100 = \frac{250}{550} \times 100$$

$$= 45.45\%$$

2.75% (or 0.0275)

4. You deposit $525 into a bank account that earns 2¾% interest monthly. What is the **amount of interest (not final total amount)** earned after one month?

$525 x 0.0275 = $14.44

0.25

5. Cleve's has a sale on all winter coats, you save 25%. You purchase a coat that is originally $79.99.

a) What is the new sale price after the discount?

$79.99 x 0.25 = $20.00

$79.99 - $20.00 = $59.99

b) What is the final price after tax (15% tax)?

$59.99 x 1.15 = $68.99

6. At Walmart, it costs $8.95 for 4 pairs of socks, while it also costs $18.00 for 10 pairs of socks. Which is the better deal? Show **all** of your work (unit rate for each one).

$8.95 for 4 pairs vs $18.00 for 10 pairs

$\frac{\$8.95}{4 \text{ pairs}}$ = $2.24/pair

$\frac{\$18.00}{10 \text{ pairs}}$ = $1.80/pair

Better Deal

7. Ms. Blain's recipe for sparkling punch calls for 2 cups grape juice, 1 cup cranberry juice and ¾ cup sprite.

a) What is the ratio of grape juice to sprite?

2 cups : 3/4 cups

b) If Ms. Blain uses 6 cups of grape juice, how much of the other ingredients does she need?

×3

$2 : 1 : \frac{3}{4} = 6 : \text{cran} : \text{sprite}$

(×3) (×3) (×3)

cran → 3 cups

sprite → $\frac{3}{4} \times \frac{3}{1} = \frac{9}{4} = 2\frac{1}{4}$ cups

8. Aidan ran 100 m in 20 seconds. Assuming he ran at the same constant speed answer the following:

a) How many meters did he run in 1 minute?

$\frac{100\text{ m}}{20\text{ sec.}} = \frac{x\text{ m}}{60\text{ sec.}}$ (1 min.) $= 300\text{ m}$

b) How long did it take him to run 500 m?

$\frac{100\text{ m}}{20\text{ sec.}} = \frac{500\text{m}}{x\text{ sec.}} =$ 100 seconds or 1 min. 40 sec.

c) What is Aidan's distance per second?

$\frac{100\text{m}}{20\text{ sec}} \rightarrow 100\text{m} \div 20\text{ sec} = 5\text{ m/s}$

9. Find the missing number in each proportion.

or $\frac{x}{36} = \frac{2}{3}$

a) 24 : 36 = 2:3 (×12)

b) 30: 3 = 90:9 (÷3)

c) 14: 21 = 2:3 (×7)

e) $\frac{20}{6} = \frac{80}{24}$

f) $\frac{5}{45} = \frac{15}{135}$

g) 12 : 18 = $\frac{2}{3}$ → $\frac{x}{18} = \frac{2}{3}$

10. Nathan bought a scooter. The total cost, including 15% tax is $110.40. What is the cost of the scooter before tax? (c)

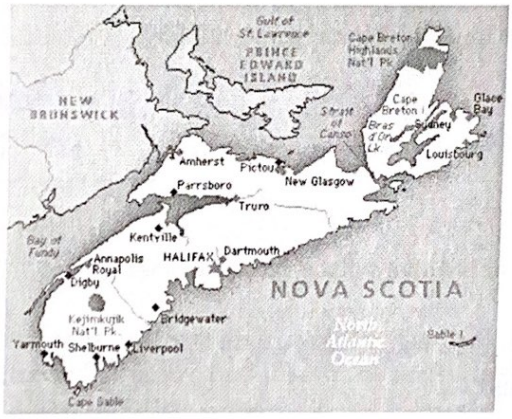
$C \times 1.15 = \$110.40 \rightarrow \frac{C \times 1.15}{1.15} = \frac{\$110.40}{1.15}$

$C = \$96.00$

11.

On a map, Mary measures the distance between Truro and Halifax to be 5 cm. She knows the actual distance between Truro and Halifax is 100 km. She then measures the distance between Halifax and Yarmouth on her map and finds it to be 18 cm.

What is the actual distance between Halifax and Yarmouth?



5 cm : 10 km = 18 cm : n km

↓ map ↓ actual ↓ map ↓ actual

$\frac{5\text{ cm}}{10\text{ km}} = \frac{18\text{ cm}}{n\text{ km}}$

$n = 360$ km

12. a) Mr. Durnford bought an antique clock at a yard sale for $25.00. He decided to post it on Bridgewater Buy and Sell and up-sell it by 135%. What is the selling price of the clock?

↓1.35

$25.00 x 1.35 = $33.75

b) How much profit did Mr. Durnford make off the clock?

$33.75 - $25.00 = $8.75

13. Mrs. Lohnes has sold 8% of the tickets to Gee Golly Wizz already. If she sold 24 tickets, how many tickets are there in total being sold for the drama play?

8% of ___ = 24

↓

$0.08 \times n = 24 \rightarrow \frac{0.08 \times n}{0.08} = \frac{24}{0.08}$

n = 300 tickets

14. At Michelin, a quality control inspector finds that 8 out of every 9 tires from the production line meet or exceed customer requirements. If the production line produces a total of 549 tires in an hour, how many would have NOT met or exceeded the customer requirements.

$8 : 9 = n : 549$

$\frac{8}{9} = \frac{n}{549}$ $n = 488$

So: 488 out of every 549 tires meet or exceed:

549 - 488 = 61

∴ 61 tires do not.