

46 Study Guide

Ch. 7 Study Guide

Rates and Operations

Test Date: Tuesday, 3/12

Topics: Using rates and unit rates to solve problems. Evaluating expressions. Writing and solving expressions, equations and inequalities.

NB Pages: 31-45

Important Pages to Study: 32 (vocab) and 38 (rate quiz)

$$\frac{20}{5} = 4$$

1a)

1a) If 3 candles are \$31.80. What is the unit price of a candle?

b) At the same rate, what would 5 candles cost?

2)

2. Rachel paid \$15.50 for three t-shirts. What was the unit price of the t-shirts?

7.

3. On a family road trip, 3 packs of licorice last 9 days. How many packs of licorice should they plan to buy for a 12 day trip (assuming a constant rate)?

4. If one serving is $\frac{3}{8}$ of a cup, how many servings are in 24 cups?

5. Evaluate the following expressions when $x = 8$ and $y = 9$.

$4x + y$

$x(y - 6)$

$y - (2x - 7)$

3)

6. Joey has 22 apps on his phone and each month (m) he typically gets another 4. Using the expression $22 + 4m$, predict how many apps Joey will have on his phone after 7 months.

200s.

7. Cristy has read 5 books since BOB started. She plans to continue reading 2 books every week for the next w weeks. Write an expression to represent the amount of books Cristy will have read after w weeks.

$5 + 2w$

4.

8. A local store charges \$2 for soda and \$3 for Gatorade. Write an expression which shows the total cost for Kelly to buy, s, sodas and, g, Gatorades?

$2s + 3g$

$48 = 48$

9. Ray's flag football team is buying new uniforms. Each uniform they order will cost \$18. The team wants to keep the cost less than or equal to \$1000. Write an inequality that represents this situation using U for uniforms.

$18U \leq 1000$

10. Re-write each of the following using the distributive property.

$4x + 8$

$2(3y - 7)$

$9(x - 2)$

$3y - 7$

5.

$4(x + 2)$
 $2(2x + 4)$

$6y - 14$

$9x - 18$

arnings.

6. $22 + 4(7)$ $m = 7$ He will have 50 apps.
 $22 + 28$
 50

7. Flappy 8. Flappy 9. Flappy 10. Flappy

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$$1a) \begin{array}{r} 10.60 \\ 3 \overline{) 31.80} \\ \underline{-30} \\ 18 \\ \underline{-18} \\ 00 \end{array}$$

Each candle is \$10.60.
5 candles cost \$53.00.

$$b) \begin{array}{r} 10.60 \\ \times 5 \\ \hline 53.00 \end{array}$$

$$2) \begin{array}{r} 05.1\bar{6} \\ 3 \overline{) 15.50} \\ \underline{-15} \\ 05 \\ \underline{-3} \\ 20 \\ \underline{-18} \\ 2 \end{array}$$

The unit price is about \$5.17.

3) Licorice

1	× 3
2	× 3
3	× 3
4	× 3

Days

3
6
9
12

They should buy 4 packs.

$$4. \frac{\text{serv.}}{\text{cups}} = \frac{1}{\frac{3}{8}} \times \frac{\boxed{48}}{48} = \frac{48}{24}$$

$$24 \div \frac{3}{8} = \frac{24}{1} \times \frac{8}{3} = \frac{48}{1} = 48$$

"work backwards"

There are 48 servings.

$$5. \begin{array}{l} 4(8) + 9 \\ 32 + 9 \\ \boxed{41} \end{array}$$

$$\begin{array}{l} 8(9-6) \\ 8(3) \\ \boxed{24} \end{array}$$

$$\begin{array}{l} 9 - (2 \cdot 8 - 7) \\ 9 - (16 - 7) \\ 9 - (9) \\ \boxed{0} \end{array}$$

$$6. \begin{array}{l} 22 + 4(7) \\ 22 + 28 \\ 50 \end{array}$$

$$m = 7$$

He will have 50 apps.

7. Flappy

8. Flappy

9. Flappy

10. Flappy