

Chapter 1 Practice Test

Write the letter for the correct answer in the blank at the right of each question.

1. One bus leaves a stop every 12 minutes. A second bus leaves the same stop every 18 minutes. If they both leave at 3:20 P.M., at what time will they next leave together?

$3:20 + 36 \text{ min} = 3:56$

$$\begin{array}{r} 3 \overline{) 12 \ 18} \\ \underline{2 \ 4 \ 6} \\ 2 \times 3 \end{array} \quad \begin{array}{l} 3 \times 2 \times 2 \times 3 \\ 12 \times 3 = 36 \text{ min} \end{array}$$

1. 3:56 PM

2. In an orchestra, there are 42 woodwind players to 56 brass players. What is the ratio of woodwinds to brass written as a fraction in simplest form?

$$\frac{42}{56} \quad \begin{array}{r} 2 \overline{) 42 / 56} \\ \underline{7 \ 21 / 28} \\ 3 \ 14 \end{array}$$

2. $\frac{3}{4}$

3. The table shows the number of trees at Citrus Orchards. What is the ratio of orange trees to the total number of trees?

Citrus Orchard	
Trees	Amount of Trees
Lemon	30
Lime	14
Orange	12

$$\begin{array}{r} 30 \\ + 14 \\ \hline 44 \\ + 12 \\ \hline 56 \end{array} \quad \frac{12}{56}$$

$$\begin{array}{r} 2 \overline{) 12 / 56} \\ \underline{2 \ 6 / 28} \\ 3 \ 14 \end{array}$$

3. $\frac{3}{14}$

For Exercises 4 and 5, what is each rate written as a unit rate?

4. 350 kilometers in 5 hours $\frac{350 \text{ km}}{5 \text{ h}} = \frac{70 \text{ km}}{1 \text{ hour}}$

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5. \$80 for 16 tickets $\frac{\$80}{16 \text{ tickets}} = \frac{\$5.00}{1 \text{ ticket}}$

5. $\frac{\$5}{1 \text{ ticket}}$

6. It took Jaivin 18 minutes to jog 4 laps. How many minutes did it take to jog each lap at this rate?

$$\begin{array}{r} 4 \overline{) 18.0} \\ \underline{-16 \ 0} \\ 20 \\ \underline{-20} \\ 0 \end{array} \quad \begin{array}{r} 18 \text{ min} \\ 4 \text{ laps} \end{array} \quad \begin{array}{r} 4 \\ \vdots \\ 4 \end{array} = \frac{4.5 \text{ min}}{1 \text{ lap}}$$

6. 4.5 min

7. Kelly can type 120 words in 3 minutes. How many words can she type in 1 minute at this rate?

$$\frac{120 \text{ w}}{3 \text{ min}} \quad \begin{array}{r} 3 \\ \vdots \\ 3 \end{array} = \frac{40 \text{ w}}{1 \text{ min}}$$

7. 40 words

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For Exercises 8 and 9, use the ratio table given to solve each problem.

8. The jumping team can jump 36 times in 9 seconds. At this rate, how many jumps can they make in 27 seconds?

Jumps	36	
Time (s)	9	27

$$\frac{36 \text{ times}}{9 \text{ sec.}} \times \frac{27 \text{ sec.}}{3} = \frac{108}{3} = 36$$

8. 108 jumps

9. A customer at a raceway can drive around the track 54 times for \$12. At this rate, how many times can the customer drive around the track for \$8?

Number of Times Around Track	54	
Cost (\$)	12	8

scale back to reduce!

$$\frac{54}{12} \div \frac{2}{2} = \frac{27}{6} \div \frac{3}{3} = \frac{9}{2}$$

$$\frac{9}{2} \times \frac{4}{4} = \frac{36}{8}$$

9. 36 times

10. A china shop receives a shipment of 125 dishes in 5 boxes. At this rate, how many dishes will it receive in 15 boxes?

$$\frac{125 \text{ dishes}}{5 \text{ boxes}} \times \frac{15 \text{ boxes}}{3} = \frac{375}{3} = 125$$

10. 375 dishes

11. Mia saves \$28 in 8 weeks. Her sister saves \$18 in 24 days. Are the rates at which each sister saves equivalent? Explain your reasoning.

$$\frac{\$28}{56 \text{ days}} = \frac{\$14}{28 \text{ days}} = \frac{\$2}{4 \text{ days}} = \frac{\$0.50}{1 \text{ day}}$$

$$\frac{\$18}{24 \text{ days}} = \frac{\$6}{8 \text{ days}} = \frac{\$0.75}{1 \text{ day}}$$

No, Mia saves \$0.50 a day while her sister saves \$0.75 a day.

12. A sewing club used 48 feet of fabric to make 8 blankets. At this rate, how many blankets can be made from 12 yards of fabric?

$$12 \times 3 = 36$$

$$\frac{48 \text{ ft}}{8 \text{ b}} \div \frac{2}{2} = \frac{6 \text{ ft}}{1 \text{ b}} \times \frac{36 \text{ ft}}{6 \text{ b}} = 36$$

12. 6 blankets

13. George found that he blinked 85 times in 15 minutes. At this rate, how many seconds passed during 51 blinks?

$$15 \times 60 = 900$$

$$\frac{85 \text{ blinks}}{900 \text{ s}} \div \frac{5}{5} = \frac{17 \text{ blinks}}{180 \text{ s}} \times \frac{51 \text{ blinks}}{3} = 540 \text{ s.}$$

13. 540 seconds

14. Nick can read 3 pages in 1 minute. Write the ordered pairs (number of minutes, number of pages read) for Nick reading 0, 1, 2, and 3 minutes.

3p.	1min
6p.	2min
9p.	3min

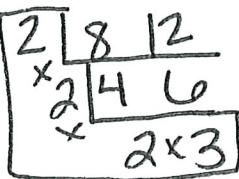
- (0,0)
- (1,3)
- (2,6)
- (3,9)

14. (0,0), (1,3)
(2,6), (3,9)

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15.) What is the least common multiple of 8 and 12?

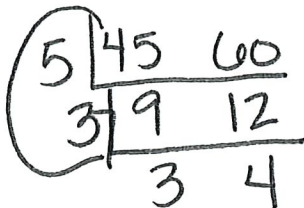
$2 \times 2 \times 2 \times 3$



15. LCM = 24

16.) What is the greatest common factor of 45 and 60?

$5 \times 3 = 15$



16. GCF = 15

Problem #	Number	Prime or Composite	List the Factors
17.)	27	Composite	1, 3, 9, 27
18.)	19	Prime	1, 19

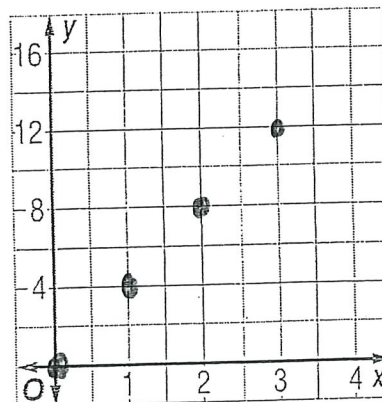
19.) Kim swam 18 times in 3 weeks. Kirstin swam 30 times in 6 weeks. Are the rates at which they practiced equivalent? Explain your reasoning.

19. _____

Explanation: No, Kim swam $\frac{6 \text{ times}}{1 \text{ week}}$ which is 1 more than Kirstin who swam $\frac{5 \text{ times}}{1 \text{ week}}$.

20.) A car wash can wash four cars in one hour. The table shows the total number of cars washed in 0, 1, 2, and 3 hours.

Hours	0	1	2	3
Cars Washed	0	4	8	12



a.) List this information as ordered pairs (number of hours, number of cars washed). $(0,0), (1,4), (2,8), (3,12)$

b.) Graph the ordered pairs on the coordinate plane at the right.

c.) Describe the graph.

- As the hours increase by 1, the number of cars washed increases by 4.
- Every x value increases by 1, as y values increase by 4.
- Every hour that the car wash is open, 4 cars get washed.