



CRYPTIC QUIZ

1. What should the JOLLY GREEN GIANT receive?

$\overline{6}$ $\overline{5}$ $\overline{18}$ $\overline{11}$ $\overline{16}$ $\overline{15}$ $\overline{52}$ $\overline{18}$ $\overline{70}$ $\overline{2}$ $\overline{80}$ $\overline{18}$ $\overline{9}$ $\overline{12}$ $\overline{13}$ $\overline{80}$ $\overline{20}$ $\overline{30}$ $\overline{1}$ $\overline{18}$

2. Why did it take the GOAT more than 3 hours to finish a 20-page book?

$\overline{5}$ $\overline{18}$ $\overline{21}$ $\overline{8}$ $\overline{9}$ $\overline{12}$ $\overline{16}$ $\overline{6}$ $\overline{24}$ $\overline{4}$ $\overline{18}$ $\overline{20}$ $\overline{3}$ $\overline{60}$ $\overline{5}$ $\overline{10}$ $\overline{16}$ $\overline{7}$ $\overline{20}$ $\overline{3}$

	<p>Solve each proportion and find your answer in the code. Each time the answer appears, write the letter of the exercise above it.</p>	
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Ⓘ $\frac{2}{5} = \frac{12}{n}$

Ⓢ $\frac{3}{4} = \frac{9}{n}$

Ⓖ $\frac{6}{2} = \frac{21}{n}$

Ⓞ $\frac{10}{4} = \frac{n}{6}$

Ⓨ $\frac{5}{15} = \frac{n}{9}$

Ⓣ $\frac{12}{8} = \frac{n}{4}$

Ⓤ $\frac{2}{n} = \frac{5}{25}$

Ⓐ $\frac{33}{n} = \frac{11}{3}$

Ⓛ $\frac{49}{n} = \frac{7}{10}$

Ⓥ $\frac{n}{6} = \frac{6}{9}$

Ⓩ $\frac{n}{4} = \frac{18}{72}$

ⓗ $\frac{n}{2} = \frac{50}{20}$

Ⓦ $\frac{14}{n} = \frac{7}{4}$

Ⓔ $\frac{8}{12} = \frac{12}{n}$

Ⓑ $\frac{n}{13} = \frac{4}{1}$

Ⓡ $\frac{24}{6} = \frac{n}{5}$

Ⓝ $\frac{n}{10} = \frac{40}{25}$

Ⓟ $\frac{24}{n} = \frac{30}{100}$

What Happened When There Was a Kidnapping at Bizarre Middle School?

Write each ratio in simplest form, then find your answer at the bottom of the page. Write the letter of the exercise in the box above the answer.

- I. Write each ratio.
- (E) Stars to squares $\frac{5}{7}$ (C) Circles to stars $\frac{7}{5}$
- (H) Squares to circles $\frac{7}{5}$ (T) Stars to all figures $\frac{7}{18}$
- (M) Stars to circles $\frac{7}{5}$ (E) Squares to all figures $\frac{1}{3}$

II. A screen is 15 in. high and 20 in. wide. Write each ratio.

- (H) Height to width $\frac{3}{4}$ (A) Width to height $\frac{4}{3}$

III. A magazine photograph is 24 cm long and 16 cm wide. Write each ratio.

- (E) Length to width $\frac{3}{2}$
- (P) Width to length $\frac{2}{3}$

IV. There are 30 students in a class, including 16 boys. Write each ratio.

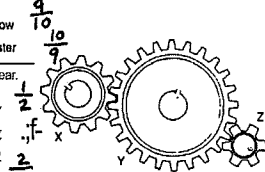
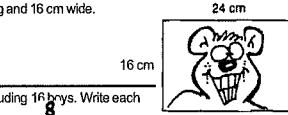
- (H) Girls to boys $\frac{7}{14}$ (R) Boys to girls $\frac{8}{7}$
- (E) Girls to all students $\frac{1}{3}$ (I) Boys to all students $\frac{8}{15}$

V. A fire-breathing swamp monster is 36 feet tall. When last observed, his shadow was 40 feet long. Write each ratio.

- (T) Height of monster to length of shadow $\frac{9}{10}$
- (W) Length of shadow to height of monster $\frac{10}{9}$

VI. Count the number of teeth on each gear. Then write each ratio.

- (C) Teeth on Gear X to teeth on Gear Y $\frac{1}{2}$
- (U) Teeth on Gear Y to teeth on Gear Z $\frac{1}{1}$
- (K) Teeth on Gear X to teeth on Gear Z $\frac{2}{1}$



T	H	E	T	E	A	C	H	E	R	W	O	K	E	H	I	M	U	P					
5	6	7	2	9	5	4	1	7	1	8	5	10	7	2	3	7	3	8	5	8	4	2	3
18	7	15	5	10	6	3	2	8	3	7	4	9	5	1	2	11	4	15	7	3	1	2	3

E-7

TOPIC 1-Ratio

NOTE: In Exercise 20, students find the average speed in feet per second needed to run a 4-minute mile. (Roger Bannister was the first person to do this.)

Did the Enjoy Living a-Best?

Do each exercise and find your answer to the right. Write the letter of the answer in the box containing the number of the exercise. If the answer has a ●, shade in the box instead of writing a letter in it.

I. Write each ratio as a fraction in simplest form.

- (1) 7 to 12 $\frac{7}{12}$ (2) 9:4 $\frac{9}{4}$
- (3) 8 to 10 $\frac{4}{5}$ (4) 20 to 12 $\frac{5}{3}$
- (5) 25:50 $\frac{1}{2}$ (6) 6 out of 15 $\frac{2}{5}$
- (7) 80 to 60 $\frac{4}{3}$ (8) 35 out of 100 $\frac{7}{20}$
- (9) 78 out of 780 $\frac{1}{10}$ (10) 90:30 $\frac{3}{1}$
- (11) The ratio of wins to losses for a team with 60 wins and 90 losses. $\frac{2}{3}$
- (12) The ratio of girls to boys in a 7th grade class with 300 girls and 250 boys. $\frac{6}{5}$
- (13) The ratio of red to blue for a purple paint made by mixing 24 oz of red with 28 oz of blue. $\frac{6}{7}$
- (14) The ratio of blue to red for a purple paint made by mixing 24 oz of red with 28 oz of blue. $\frac{7}{6}$

Answers:

- (H) $\frac{8}{5}$ (T) $\frac{4}{5}$
- (A) $\frac{1}{10}$ (●) $\frac{4}{3}$
- (●) $\frac{6}{5}$ (D) $\frac{3}{10}$
- (A) $\frac{7}{12}$ (S) $\frac{1}{2}$
- (T) $\frac{7}{20}$ (L) $\frac{3}{1}$
- (A) $\frac{7}{6}$ (E) $\frac{9}{4}$
- (●) $\frac{5}{3}$ (I) $\frac{6}{7}$
- (E) $\frac{2}{3}$ (R) $\frac{7}{5}$

II. Write the ratio of the two measurements in the unit indicated (a unit rate).

- (15) A car traveled 300 miles on 15 gallons of gas. **20** (miles per gallon)
- (16) Ima Smurt typed 120 words in 3 minutes. **40** (words per minute)
- (17) Dr. Cranium traveled 2,800 miles in 5 hours. **560** (miles per hour)
- (18) A gear revolved 960 times in 30 minutes. **32** (revolutions per minute)
- (19) Gloria Trench earned \$144 in 8 hours. **18** (dollars per hour)
- (20) Roger Bannister ran 5,280 feet in 4 minutes. **2** (feet per second) (HINT: 4 min = ? s)

Answers:

- (M) 48 (B) 560
- (C) 32 (L) 22
- (T) 15 (●) 20
- (W) 40 (N) 520
- (S) 18 (E) 36

13	3	7	16	9	5	15	1	4	17	11	19	8	12	18	2	20	10	14	6	
I	T	W	A	S	A	B	E	S	T	C	E	L	L	A	R					

TOPIC 1-B Ratio and Rate

E-8

CRYPTIC QUIZ

1. What should the JOLLY GREEN GIANT receive?

T H E N O B E L P E A S P R I Z E

2. Why did it take the GOAT more than 3 hours to finish a 20-page book?

H E W A S N ' T V E R Y H U N G R Y

Solve each proportion and find your answer in the code. Each time the answer appears, write the letter of the exercise above it.

- (1) $\frac{2}{5} = \frac{12}{n}$ **30** (S) $\frac{3}{4} = \frac{9}{n}$ **12** (G) $\frac{6}{2} = \frac{21}{n}$ **7**
- (D) $\frac{10}{4} = \frac{n}{6}$ **15** (Y) $\frac{5}{15} = \frac{n}{9}$ **3** (T) $\frac{12}{8} = \frac{n}{4}$ **6**
- (U) $\frac{2}{n} = \frac{5}{25}$ **10** (A) $\frac{33}{n} = \frac{11}{3}$ **9** (L) $\frac{49}{n} = \frac{7}{10}$ **70**
- (V) $\frac{n}{6} = \frac{6}{9}$ **4** (Z) $\frac{n}{4} = \frac{18}{72}$ **1** (H) $\frac{n}{2} = \frac{80}{20}$ **5**
- (W) $\frac{14}{n} = \frac{7}{4}$ **8** (E) $\frac{8}{12} = \frac{12}{n}$ **18** (B) $\frac{n}{13} = \frac{4}{1}$ **52**
- (R) $\frac{24}{6} = \frac{n}{5}$ **20** **16** (P) $\frac{24}{n} = \frac{80}{100}$ **80**

E-9

TOPIC 1-C Solving Proportions

What Did Snidely Say After Filling His Car With Super Premium, TopTest, Power Plus Gasoline?



Solve each problem and find your answer in the rectangle below. Cross out the box that contains your answer. When you finish, write the letters from the remaining boxes in the spaces at the bottom of the page.

- (1) The Jelly Junior High school color is made by mixing red paint with yellow paint. The ratio of red to yellow is 3 to 5. How much red paint should be mixed with 20 oz of yellow? **12** oz
- (2) The Lawn Order lawnmower factory can produce 12 lawnmowers in 8 hours. How many hours will it take the factory to produce 30 lawnmowers? **20** h
- (3) An object that weighs 10 lb on Earth would weigh only 4 lb on Mars. If you weigh 95 lb on Earth, how much would you weigh on Mars? **38** lb
- (4) The ratio of orange juice to pineapple juice in Tropical Treat punch is 4 to 3. Bill has 64 oz of orange juice. How much pineapple juice does he need? **48** oz
- (5) A cookie recipe for 60 cookies calls for 4 cups of flour. How much flour is needed to make 90 cookies? **6** cups
- (6) Jose can read 7 pages of his book in 5 minutes. At this rate, how long will it take him to read the entire 125-page book? **125** min
- (7) While exercising, Julie found that her heart was beating 12 times every 5 seconds. How many times was it beating per minute (60 seconds)? **144**
- (8) If there are 1,200 calories in 8 oz of hot fudge, how many calories are in 3 oz of hot fudge? **450** cal
- (9) At a certain college, the ratio of men to women is 6 to 5. If there are 1,500 men, how many women are there? **1,250**
- (10) One of the world's largest stained-glass windows is at Kennedy International Airport in New York. It is a rectangle with a height to length ratio of 2 to 25. If the window is 10 feet high, how long is it?

HI	RI	TA	KE	ER	JL	NK	W
450	48	1,210	300	12	125	340	20
GO	FO	HO	OD	NE	ED	SA	SS
136	1,250	6	15	40	44	38	7

TANK GOODNESS

TOPIC 1-D Problem Solving Using Proportions

E-10