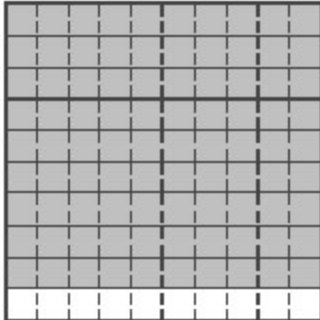


## Unit 09 PC Form A

1.  Use pencil and paper to answer the question.

Jenna made 18 out of 20 shots in the school basketball free-throw contest.



- a. What fraction of the shots did she make? \_\_\_\_\_  
b. What percent of the shots did she make? \_\_\_\_\_%  
c. At this rate, how many shots would she make if she took 100 shots?  
\_\_\_\_\_ shots

ANSWER: a.  $\frac{18}{20}$  or  $\frac{9}{10}$

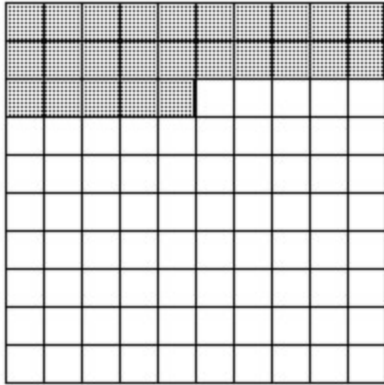
b. 90%

c. 90 shots

## Unit 09 PC Form A

2.  Use pencil and paper to answer the question.

Jay set a goal of jogging a total of 100 miles over the summer.  
 He filled in the grid below to keep track of the miles he ran.  
 During the first 2 weeks of June, he jogged 25 miles.



- a. What fraction of 100 miles did he jog in 2 weeks? \_\_\_\_\_
- b. What percent of 100 miles did he jog? \_\_\_\_\_
- c. At this rate, how many weeks will it take him to jog 100 miles? \_\_\_\_\_

ANSWER: a.  $\frac{1}{4}$

$$\frac{25}{100} = \frac{1}{4}$$

b. 25%

$$\frac{25}{100} = 25\%$$

c. 8 weeks

$$\frac{25 \text{ miles}}{2 \text{ weeks}} = \frac{100 \text{ miles}}{x \text{ weeks}}$$

$$x = 8$$

## Unit 09 PC Form A

3.  Use pencil and paper to answer the question.

Fill in the table of equivalent fractions, decimals, and percents.

Fraction	Decimal	Percent
$\frac{3}{10}$		
$\frac{1}{4}$		
		50%
$\frac{3}{4}$		
	0.4	
$\frac{4}{4}$		

ANSWER:

Fraction	Decimal	Percent
$\frac{3}{10}$	0.3	30%
$\frac{1}{4}$	0.25	25%
$\frac{1}{2}$	0.5	50%
$\frac{3}{4}$	0.75	75%
$\frac{2}{5}$	0.4	40%
$\frac{4}{4}$	1	100%

## Unit 09 PC Form A

4.  Use pencil and paper to answer the question.

Fill in the table of equivalent fractions, decimals, and percents.

Fraction	Decimal	Percent
$\frac{2}{5}$		
		60%
	0.75	
		93%

ANSWER:

Fraction	Decimal	Percent
$\frac{2}{5}$	0.4	40%
$\frac{75}{100}$ or $\frac{60}{100}$ or $\frac{6}{10}$ or $\frac{3}{5}$	0.6	60%
$\frac{75}{100}$ or $\frac{60}{100}$ or $\frac{6}{10}$ or $\frac{3}{4}$	0.75	75%
$\frac{93}{100}$	0.93	93%

5. Use a calculator to rename the fraction as a decimal.

$$\frac{3}{8} = \underline{\hspace{2cm}}$$

ANSWER: 0.375

## Unit 09 PC Form A

6.  Use pencil and paper to answer the question.

Use a calculator to rename each fraction as a decimal.

a.  $\frac{14}{25} =$  \_\_\_\_\_

b.  $\frac{7}{16} =$  \_\_\_\_\_

c.  $\frac{31}{32} =$  \_\_\_\_\_

ANSWER:

a. 0.56

b. 0.4375

c. 0.96875

7.  Use pencil and paper to answer the question.

Use a calculator to rename each fraction as a decimal.

a.  $\frac{3}{16} =$  \_\_\_\_\_

b.  $\frac{11}{32} =$  \_\_\_\_\_

c.  $\frac{9}{25} =$  \_\_\_\_\_

ANSWER:

a. 0.1875

b. 0.34375

c. 0.36

## 8. Use a calculator to rename the fraction as a percent.

$\frac{7}{16} =$  \_\_\_\_\_ %

ANSWER: 43.75

9.  Use pencil and paper to answer the question.

Use a calculator to rename the fraction as a percent.

a.  $\frac{11}{16} =$  \_\_\_\_\_ %

b.  $\frac{54}{75} =$  \_\_\_\_\_ %

c.  $\frac{3}{8} =$  \_\_\_\_\_ %

ANSWER:

a. 68.75

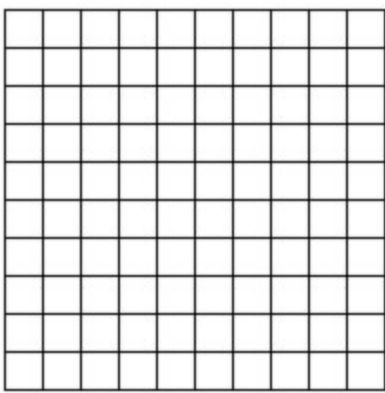
b. 72

c. 37.5

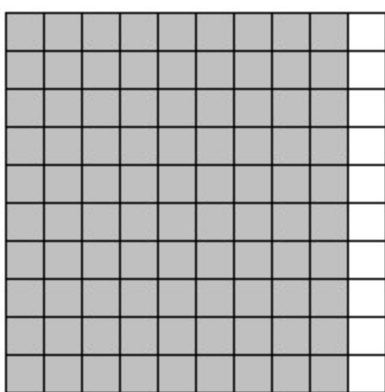
## Unit 09 PC Form A

10.  Use pencil and paper to answer the question.

Shade 90% of the grid below.



- a. What fraction of the grid did you shade? \_\_\_\_\_
- b. Write this fraction as a decimal. \_\_\_\_\_
- c. What percent of the grid is NOT shaded? \_\_\_\_\_



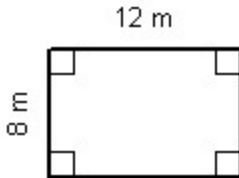
ANSWER:

- a.  $\frac{90}{100}$  or  $\frac{9}{10}$
- b. 0.9
- c. 10%

## Unit 09 PC Form A

11.  **Use pencil and paper to answer the question.**

Find the area and perimeter of the polygon. Write number models to show what you did to get the answers. Include the correct units.



Area = \_\_\_\_\_

Number Model: \_\_\_\_\_

Perimeter = \_\_\_\_\_

Number Model: \_\_\_\_\_

*ANSWER:* Sample answers are given for number models.

$$\text{Area} = 96 \text{ m}^2$$

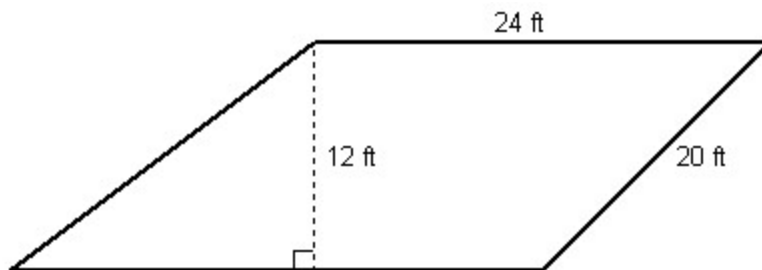
$$\text{Number Model: } 8 * 12 = 96$$

$$\text{Perimeter} = 40 \text{ m}$$

$$\text{Number Model: } 8 + 12 + 8 + 12 = 40$$

12.  **Use pencil and paper to answer the question.**

Find the area and perimeter of the polygon. Write number models to show what you did to get the answers. Include the correct units.



Area = \_\_\_\_\_

Number Model: \_\_\_\_\_

Perimeter = \_\_\_\_\_

Number Model: \_\_\_\_\_

*ANSWER:* Sample answers are given for number models.

$$\text{Area} = 288 \text{ ft}^2$$

$$\text{Number Model: } 12 * 24 = 288$$

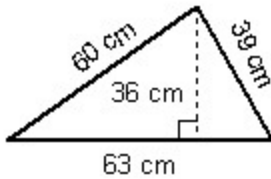
$$\text{Perimeter} = 88 \text{ ft}$$

$$\text{Number Model: } 24 + 20 + 24 + 20 = 88$$

## Unit 09 PC Form A

13.  **Use pencil and paper to answer the question.**

Find the area and perimeter of the polygon. Write number models to show what you did to get the answers. Include the correct units.



Area = \_\_\_\_\_

Number Model: \_\_\_\_\_

Perimeter = \_\_\_\_\_

Number Model: \_\_\_\_\_

*ANSWER:* Sample answers are given for number models.

$$\text{Area} = 1,134 \text{ cm}^2$$

$$\text{Number Model: } \frac{1}{2} * 36 * 63 = 1,134$$

$$\text{Perimeter} = 162 \text{ cm}$$

$$\text{Number Model: } 60 + 39 + 63 = 162$$

14.  **Use pencil and paper to answer the question.**

Insert parentheses to make the number sentence true.

$$60 + 50 * 8 = 880$$

*ANSWER:*  $(60 + 50) * 8 = 880$

15.  **Use pencil and paper to answer the question.**

Insert parentheses to make the number sentence true.

$$13 = 57 - 21 + 23$$

*ANSWER:*  $13 = 57 - (21 + 23)$

16.  **Use pencil and paper to answer the question.**

Insert parentheses to make the number sentence true.

$$83 - 20 / 7 = 9$$

*ANSWER:*  $(83 - 20) / 7 = 9$

17.  **Use pencil and paper to answer the question.**

Insert parentheses to make the number sentence true.

$$80 = 11 + 6 + 3 * 4$$

*ANSWER:*  $80 = (11 + 6 + 3) * 4$



## Unit 09 PC Form A

18.  **Use pencil and paper to answer the question.**

Insert parentheses to make each number sentence true.

a.  $20 + 10 * 7 = 210$

b.  $9 = 45 - 13 + 23$

c.  $36 - 20 / 4 = 4$

d.  $50 = 12 + 8 + 5 * 2$

ANSWER:

a.  $(20 + 10) * 7 = 210$

b.  $9 = 45 - (13 + 23)$

c.  $(36 - 20) / 4 = 4$

d.  $50 = (12 + 8 + 5) * 2$

19.  **Use pencil and paper to answer the question.**

Chet bought a rug that cost \$280. He had a coupon for a 10% discount.

a. How much money did he save with the discount? \$\_\_\_\_\_

b. How much did he pay for the rug? \$\_\_\_\_\_

ANSWER: a. \$28

b. \$252

20.  **Use pencil and paper to answer the question.**

Aiyana plans to buy a game system. The model she wants costs \$210 at L-Mart and \$180 at Al's Department Store.

In spring, L-Mart put that game system on sale at a savings of  $\frac{1}{3}$  off the regular price.

Al's Department Store offered a 20% discount on all items.

a. At which store should Aiyana buy the game system?

---

b. Explain your answer.

---



---



---



---

ANSWER: a. Aiyana should buy the game system at L-Mart.

b. At L-Mart the savings is  $\frac{1}{3}$  of \$210, or \$70. The final cost is  $210 - \$70 = \$140$ .

At Al's Department Store the savings is 20% of \$180, or \$36. The final cost is  $\$180 - \$36 = \$144$ . L-Mart has the lower price.

## Unit 09 PC Form A

21.  Use pencil and paper to answer the question.

In the problem below, the multiplication has been done correctly, but the decimal point is missing in the answer. Write a number model to show how you estimated the answer. Then rewrite the answer with the decimal point in the correct place.

$$63 * 8.8 = 5544$$

Number model: \_\_\_\_\_

Answer: \_\_\_\_\_

ANSWER: Number model:  $60 * 9 = 540$

Answer: 554.4

22.  Use pencil and paper to answer the question.

In the problem below, the multiplication has been done correctly, but the decimal point is missing in the answer. Write a number model to show how you estimated the answer. Then rewrite the answer with the decimal point in the correct place.

$$0.47 * 97 = 4559$$

Number model: \_\_\_\_\_

Answer: \_\_\_\_\_

ANSWER: Number model:  $\frac{1}{2}$  of 100 = 50

Answer: 45.59

23.  Use pencil and paper to answer the question.

In the problem below, the division has been done correctly, but the decimal point is missing in the answer. Write a number model to show how you estimated the answer. Then rewrite the answer with the decimal point in the correct place.

$$99.3 / 4 = 24825$$

Number model: \_\_\_\_\_

Answer: \_\_\_\_\_

ANSWER: Number model:  $100 / 4 = 25$

Answer: 24.825

24.  Use pencil and paper to answer the question.

In the problem below, the division has been done correctly, but the decimal point is missing in the answer. Write a number model to show how you estimated the answer. Then rewrite the answer with the decimal point in the correct place.

$$593.6 / 3 = 19786\bar{6}$$

Number model: \_\_\_\_\_

Answer: \_\_\_\_\_

ANSWER: Number model:  $600 / 3 = 200$

Answer:  $197.86\bar{6}$

## Unit 09 PC Form A

25.  **Use pencil and paper to answer the question.**

For each problem below, the multiplication or division has been done correctly, but the decimal point is missing in the answer. Write a number model to show how you estimated the answer. Then correctly place the decimal point in the answer.

a.  $89 * 4.7 = 4\ 1\ 8\ 3$

b.  $0.46 * 97 = 4\ 4\ 6\ 2$

Number model:

\_\_\_\_\_

Number model:

\_\_\_\_\_

c.  $98.3 / 4 = 2\ 4\ 5\ 7\ 5$

d.  $587.3 / 3 = 1\ 9\ 5\ 7\ 6\ 6\ \bar{6}$

Number model:

\_\_\_\_\_

Number model:

\_\_\_\_\_

ANSWER:

a. Number model:  $90 * 5 = 450$   
 Answer: 418.3

b. Number model:  $\frac{1}{2}$  of 100 = 50  
 Answer: 44.62

c. Number model:  $100 / 4 = 25$   
 Answer: 24.575

d. Number model:  $600 / 3 = 200$   
 Answer: 195.766 $\bar{6}$

26.  **Use pencil and paper to answer the question.**

### Designing a Floor

Mrs. Franco is tiling her floor in a colorful pattern. She knows what colors she wants to use and what percent of the floor each color will be.

a. Find how many tiles of each color Mrs. Franco needs. Show and explain your work.

Color	Percent of Tiles	Number of Tiles
Blue	10%	
Red	30%	
Yellow	10%	
Green	15%	
Orange	35%	
Total		180

# Unit 09 PC Form A

---

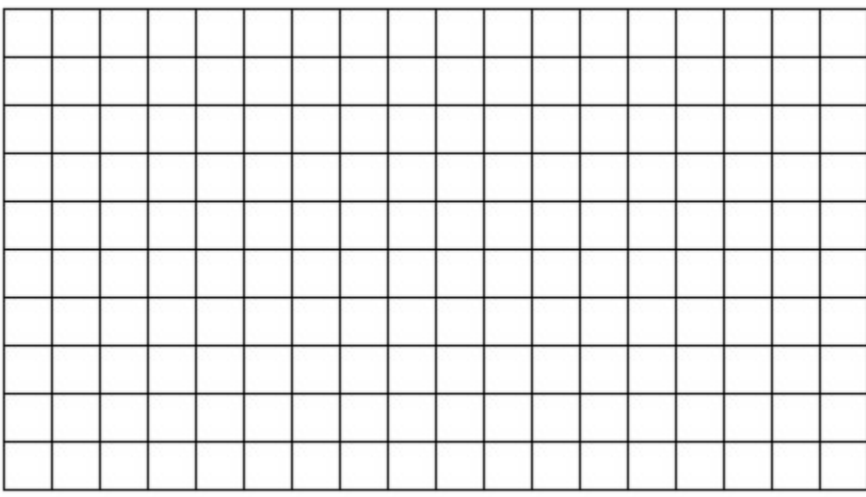


---



---

**b.** Make a design using Mrs. Franco's tiles on the grid below.



**ANSWER:** **a.** In the table: 18 blue tiles, 54 red tiles, 18 yellow tiles, 27 green tiles, 63 orange tiles. There should be a total of 100%. Add the given percentages and subtract the total from 100% to get the missing value of 35%. Then multiply each percent by the total number of tiles to find the number of tiles for each color. Check to make sure the total number of tiles adds up to 180.

**b.** Here is one possible answer for the design.

O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
G	G	G	G	G	G	G	G	G	O	O	O	O	O	O	O	O	O
G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

Key: B = Blue, G = Green, R = Red, O = Orange, Y = Yellow