

Fourth Grade

Number & Operations

Place Value

Periods: Each group of three digits in a place value chart

MILLIONS			THOUSANDS			UNITS			DECIMALS	
hundreds	tens	ones	hundreds	tens	ones	hundreds	tens	ones	tenths	hundredths
		3	5	08	1 4	9		6	5	

Estela wants to buy 2 notebooks that cost \$2.79 each, including tax. If she has one-dollar bills and no coins, how many one-dollar bills does she need?

- A. 3
- B. 4
- C. 5
- D. 6

Estela wants to buy 2 notebooks that cost \$2.79 each, including tax. If she has one-dollar bills and no coins, how many one-dollar bills does she need?

When we round \$2.79 to the nearest dollar, we get \$3.00.

A. 3

B. 4

C. 5

D. 6

Which of the following is closest to 15 seconds?

A. 14.1 seconds

B. 14.7 seconds

C. 14.9 seconds

D. 15.2 second

Which of the following is **closest** to 15 seconds?

Round off each to find the closest to 15 seconds.

A. 14.1 seconds → 14 seconds

B. 14.7 seconds → 15 seconds

C. 14.9 seconds → 15 seconds

D. 15.2 second → 15 seconds

Determine which one is closest to 15 on a number line.

The length of a dinosaur was reported to have been 80 feet (rounded to the nearest 10 feet). What length other than 80 feet could have been the actual length of this dinosaur?

- A. 72 ft
- B. 76 ft
- C. 86 ft
- D. 89 ft

The length of a dinosaur was reported to have been 80 feet (rounded to the nearest 10 feet). What length other than 80 feet could have been the actual length of this dinosaur?

Determine which number rounds off to 80 feet.

A. 72 ft → 70 ft

B. 76 ft → 80 ft

C. 86 ft → 90 ft

D. 89 ft → 90 ft

A loaded trailer truck weighs 26,643 kilograms. When the trailer truck is empty, it weighs 10,547 kilograms. About how much does the load weigh?

- A. 14,000 kilograms
- B. 16,000 kilograms
- C. 18,000 kilograms
- D. 36,000 kilograms

M4N2e. Represent the results of computation as a rounded number when appropriate and estimate a sum or difference by rounding numbers.

A loaded trailer truck weighs 26,643 kilograms. When the trailer truck is empty, it weighs 10,547 kilograms. About how much does the load weigh?

Round both numbers off to the nearest thousands and then subtract to find the weight of the load.

26,643 → 27,000

10,547 → 11,000

A. 14,000 kilograms

B. 16,000 kilograms

C. 18,000 kilograms

D. 36,000 kilograms

The chart shows the area of four countries. Order the countries from least to greatest area.

Country	Area (sq mi)
Canada	3,851,808
China	3,696,100
Egypt	386,908
Russia	6,592,812

- A. Egypt, Canada, China, Russia
- B. Egypt, China, Canada, Russia
- C. Russia, China, Canada, Egypt
- D. Russia, Canada, China, Egypt

The chart shows the area of four countries. Order the countries from least to greatest area.

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Canada	3,851,808
China	3,696,100
Egypt	386,908
Russia	6,592,812

A. Egypt, Canada, China, Russia

B. Egypt, China, Canada, Russia

C. Russia, China, Canada, Egypt

D. Russia, Canada, China, Egypt

386,908 Egypt

3,696,100 China

3,851,808 Canada

6,592,812 Russia

The table below shows the length of three snakes.

Lengths of Snakes (m)

Type of Snake	Length (meters)
Black Racer	1.78
Copperhead	?
Cotton Mouth	0.84

The length of the Copperhead is longer than the length of the Cotton Mouth and is shorter than the length of the Black Racer. Which of the following could be the length of the Copperhead?

- A. 0.42
- B. 1.42
- C. 1.94
- D. 2.94

The table below shows the length of three snakes.

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Black Racer	1.78
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could be the length of the Copperhead?

A. 0.42

B. 1.42

C. 1.94

D. 2.94

0.42

0.84

1.42

1.78

1.94

2.94

There are 521 rows of parking spaces in the parking lot at a stadium. Each row has 38 parking spaces. Which is the BEST estimate for the total number of parking spaces at the stadium?

- A. 1,800
- B. 2,000
- C. 18,000
- D. 20,000

There are 521 rows of parking spaces in the parking lot at a stadium. Each row has 38 parking spaces.

Which is the BEST estimate for the total number of parking spaces at the stadium?

Rounding 521 \rightarrow 500 rows; 38 \rightarrow 40 parking spaces per row

500 x 40 (count the zeroes and multiply by the non-zero number)

A. 1,800

B. 2,000

C. 18,000

D. 20,000

Trevor made an error and wrote an 8 in his check register for a deposit instead of a 6. What does he need to subtract from his register for it to be balanced?

23,745.89

- A. 2 tens
- B. 2 ones
- C. 2 tenths
- D. 2 hundredths

Trevor made an error and wrote an 8 in his check register for a deposit instead of a 6. What does he need to subtract from his register for it to be balanced?

23,745.89

The 8 is in the tenths place: 0.8

If he had put a 6 there: 0.6

$0.8 - 0.6 = 0.2$ or 2 tenths

A. 2 tens

B. 2 ones

C. 2 tenths

D. 2 hundredths

The sign below shows the population of Washington, D.C. in the year 2000.



What is the value of the 7 in Washington, D.C.'s population?

- A. 7
- B. 70
- C. 7,000
- D. 70,000

M4N1a. Identify place value names and places from hundredths through one million.

The sign below shows the population of Washington, D.C. in the year 2000.



What is the value of the 7 in Washington, D.C.'s population?

The 7 is in the ten thousands (10,000) place.

$7 \times 10,000 = 70,000$

- A. 7
- B. 70
- C. 7,000
- D. 70,000**

Which of the following is read "five-tenths"?

A. 0.05

B. 0.5

C. 5.10

D. 5.0

Which of the following is read "five-tenths"?

Five-tenths = $5 \times 0.1 = 0.5$

A. 0.05

B. 0.5

C. 5.10

D. 5.0

Which of the following is NOT the same as 770.7?

A. 70 tens + 70 + 70 tenths

B. $700 + 70 + 0.7$

C. Seven hundred seventy and 7 tenths

D. 70 tens + 70 + 70 hundredths

Which of the following is NOT the same as 770.7?

70 tenths is the same as $\frac{70}{10} = 7$

A. 70 tens + 70 + 70 tenths = $70(10) + 70 + 70(0.1)$

B. $700 + 70 + 0.7$

C. Seven hundred seventy and 7 tenths

D. 70 tens + 70 + 70 hundredths

Use the table below to answer the following question. Rounded to the nearest hundred, which city is about 800 miles from Atlanta, GA?

Cities	Distance From Atlanta, GA in miles
Baltimore, MD	645
Buffalo, NY	859
Chicago, IL	674
Dallas, TX	795
Philadelphia, PA	741
Topeka, KS	863

- A. Buffalo, NY
- B. Dallas, TX
- C. Philadelphia, PA
- D. Topeka, KS

Use the table below to answer the following question.

Rounded to the nearest hundred, which city is **about 800** miles from Atlanta, GA?

645 → 600

859 → 900

674 → 700

795 → 800

741 → 700

863 → 900

Cities	Distance From Atlanta, GA in miles
Baltimore, MD	645
Buffalo, NY	859
Chicago, IL	674
Dallas, TX	795
Philadelphia, PA	741
Topeka, KS	863

A. Buffalo, NY

B. Dallas, TX

C. Philadelphia, PA

D. Topeka, KS

The table shows last season's earned run averages (ERAs) for the four best pitchers in the Roanoke Little League.

Pitcher	ERA
Rasmund	2.34
Feinstein	2.54
Gotkowski	2.59
Johnson	2.65

Which pitcher's ERA is 2.6 when rounded to the nearest tenth?

- A. Rasmund
- B. Feinstein
- C. Gotkowski
- D. Johnson

The table shows last season's earned run averages (ERAs) for the four best pitchers in the Roanoke Little League.

Pitcher	ERA
Rasmund	2.34
Feinstein	2.54
Gotkowski	2.59
Johnson	2.65

2.34 → 2.3

2.54 → 2.5

2.59 → 2.6

2.65 → 2.7

Which pitcher's ERA is 2.6 when rounded to the nearest tenth?

- A. Rasmund
- B. Feinstein
- C. **Gotkowski**
- D. Johnson

Kia ran 3 miles in her school's track meet in 15.45 minutes. If records are kept to the nearest minute, how many minutes should be recorded for Kia in the school record book?

A.16 minutes

B.6 minutes

C.15 minutes

D.5 minutes

Kia ran 3 miles in her school's track meet in 15.45 minutes. If records are kept to the nearest minute, how many minutes should be recorded for Kia in the school record book?

Using the rules for rounding, the digit in the tenths place is less than 5 so we round down.

A.16 minutes

B.6 minutes

C.15 minutes

D.5 minutes

M4N2d. Round a decimal to the nearest whole number or tenth.

Amber and Charlotte each ran a mile. It took Amber 11.79 minutes. It took Charlotte 9.08 minutes. Which number sentence can Charlotte use to best estimate the difference in their times?

A. $11 - 9$

B. $11 - 10$

C. $12 - 9$

D. $12 - 10$

Amber and Charlotte each ran a mile. It took Amber 11.79 minutes. It took Charlotte 9.08 minutes. Which number sentence can Charlotte use to best estimate the difference in their times?

$$11.79 \rightarrow 12$$

$$9.08 \rightarrow 9$$

A. $11 - 9$

B. $11 - 10$

C. $12 - 9$

D. $12 - 10$

The circus sold 1,698 student tickets and 879 adult tickets for a show. Which is the best estimate of how many more student tickets were sold than adult tickets?

- A. 200
- B. 800
- C. 1,700
- D. 2,600

M4N2e. Represent the results of computation as a rounded number when appropriate and estimate a sum or difference by rounding numbers.

The circus sold 1,698 student tickets and 879 adult tickets for a show. Which is the best estimate of how many more student tickets were sold than adult tickets?

The numbers should be rounded to the nearest hundreds (the last place of the lowest number).

1,698 \rightarrow 1,700; 879 \rightarrow 900

1,700 $-$ 900 = 800

A. 200

B. 800

C. 1,700

D. 2,600

M4N2e. Represent the results of computation as a rounded number when appropriate and estimate a sum or difference by rounding numbers.

The solution to $49,364 - 15,869$ is *closest* to _____

A.300

B.3,000

C.30,000

D.300,000

M4N2e. Represent the results of computation as a rounded number when appropriate and estimate a sum or difference by rounding numbers.

The solution to $49,364 - 15,869$ is *closest* to _____

Round both numbers to the nearest 10,000

$$50,000 - 20,000 = 30,000$$

A.300

B.3,000

C.30,000

D.300,000

M4N2e. Represent the results of computation as a rounded number when appropriate and estimate a sum or difference by rounding numbers.

The sum of $32,796 + 47,580$ is best described as

A. about 60,000

B. about 70,000

C. about 80,000

D. about 90,000

M4N2e. Represent the results of computation as a rounded number when appropriate and estimate a sum or difference by rounding numbers.

The sum of $32,796 + 47,580$ is best described as

$32,796 \rightarrow 30,000$

$47,580 \rightarrow 50,000$

A. about 60,000

B. about 70,000

C. about 80,000

D. about 90,000

M4N2e. Represent the results of computation as a rounded number when appropriate and estimate a sum or difference by rounding numbers.

You are planning for the number of boxes to ship 345 coats. You have determined that each box will hold 12 coats. How many boxes will you need to ship all the coats?

A.28

B.29

C.9

D.28 R9

M4N4b. Solve problems involving division by 1 or 2-digit numbers (including those that generate a remainder).

You are planning for the number of boxes to ship **345** coats. You have determined that **each box will hold 12 coats**. How many boxes will you need to ship **all** the coats?

We're looking for equal shares, so divide $345 \div 12 = 28 \text{ R}9$. This means that there are 28 boxes with 12 coats in each. The 29th box will have only 9 coats.

A.28

B.29

C.9

D.28 R9

M4N4b. Solve problems involving division by 1 or 2-digit numbers (including those that generate a remainder).

Every hour, a company makes 8,400 paper plates and puts them in packages of 15 plates each. How many packages are made in one hour?

A.560

B.8,385

C.17,857

D.126,000

M4N4b. Solve problems involving division by 1 or 2-digit numbers (including those that generate a remainder).

Every hour, a company makes **8,400** paper plates and puts them in packages of **15 plates each**. How many packages are made in one hour?

The packages are in equal shares of 15, which means to divide: $8,400 \div 15 = 560$

A.560

B.8,385

C.17,857

D.126,000

M4N4b. Solve problems involving division by 1 or 2-digit numbers (including those that generate a remainder).

Three track stars crossed the finish line for the dash in just a few seconds. Which list shows the track stars times listed in order from slowest to fastest?

- A. 2.09, 2.1, 3
- B. 3, 2.1, 2.09
- C. 2.09, 2.1, 3
- D. 3, 2.09, 2.1

Three track stars crossed the finish line for the dash in just a few seconds. Which list shows the track stars times listed in order from slowest to fastest?

Slowest to fastest would mean the largest number to the smallest number. Line the three numbers up at the decimal.

2.09

2.1

3

A. 2.09, 2.1, 3

B. 3, 2.1, 2.09

C. 2.09, 2.1, 3

D. 3, 2.09, 2.1

M4N5b. Understand the relative size of numbers and order two digit decimals.

Last month Ms. Paulson deposited three checks in her savings account. The chart below shows the date and amount of each deposit.

Checks Deposited

Date	Amount
June 6	\$621.75
June 15	\$473.10
June 28	\$1,082.90

What was the total amount of the three checks deposited?

- A. \$3,177.75
- B. \$2,177.75
- C. \$2,168.75
- D. \$1,067.75

Last month Ms. Paulson deposited three checks in her savings account. The chart below shows the date and amount of each deposit.

What was the total amount of the three checks deposited?

Make sure the amounts are lined up at the decimal point.

Checks Deposited

Date	Amount
June 6	\$621.75
June 15	\$473.10
June 28	\$1,082.90

A. \$3,177.75

B. \$2,177.75

C. \$2,168.75

D. \$1,067.75

Faith charges \$6.50 per hour for babysitting. How much will she earn for 5 hours of babysitting?

- A. \$11.50
- B. \$30.25
- C. \$32.50
- D. \$40.50

Faith charges \$6.50 per hour for babysitting. How much will she earn for 5 hours of babysitting?

\$6.50 for 1 hour; $\$6.50 \times 5 = 32.50$

A. \$11.50

B. \$30.25

C. **\$32.50**

D. \$40.50

Maria is working on a project that needs four equal pieces of wood. If she wants to use an entire piece of wood that is 7 meters long, each cut piece will be how long?

A. 0.175 meters

B. 1.75 meters

C. 17.5 meters

D. 175 meters

Maria is working on a project that needs **four equal pieces** of wood. If she wants to use an entire piece of wood that is **7 meters** long, each cut piece will be how long?

Four equal pieces means equal shares from 7 meters ($7 \div 4 = 1.75$ m)

A. 0.175 meters

B. 1.75 meters

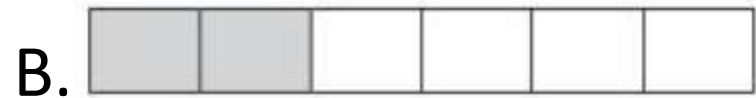
C. 17.5 meters

D. 175 meters

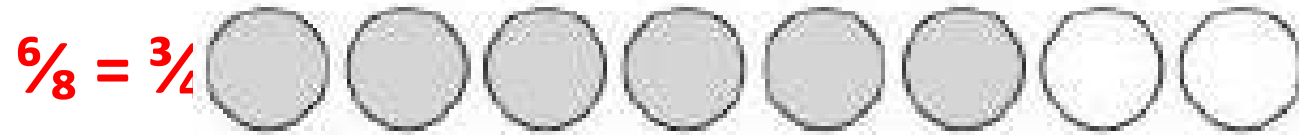
A fraction of the group of marbles below is shaded.



Which figure below is shaded to represent a fraction with the same value?



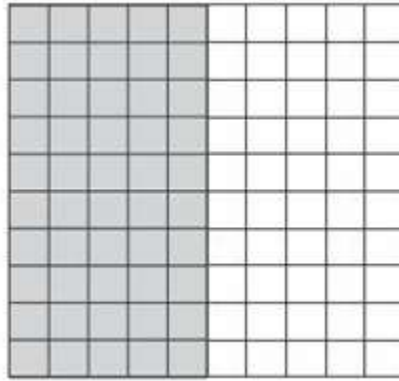
A fraction of the group of marbles below is shaded.



Which figure below is shaded to represent a fraction with the same value?



The picture below is shaded to represent a decimal number.



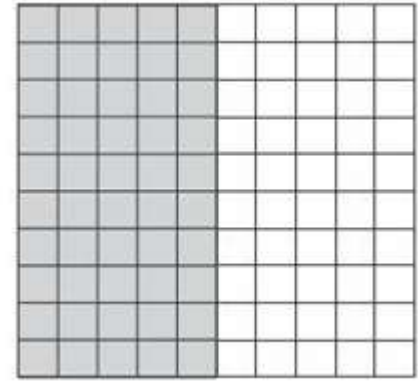
How many of the stars in the group below must be shaded to represent a fraction with the same value?



- A. 5
- B. 6
- C. 8
- D. 10

The picture below is shaded to represent a decimal number.

**The picture represents $0.50 = 0.5 = \frac{5}{10}$
 $\frac{5}{10} = \frac{1}{2}$**



How many of the stars in the group below must be shaded to represent a fraction with the same value?

There are 12 stars (denominator = 12)
 $\frac{1}{2} = \frac{6}{12}$



- A. 5
- B. 6**
- C. 8
- D. 10

Two candy bars are shown below. All the pieces are the same size, how much in all do the shaded regions represent?



- A. $\frac{4}{5}$
- B. $\frac{4}{10}$
- C. 4
- D. 6

Two candy bars are shown below. All the pieces are the same size, how much in all do the shaded regions represent?



$\frac{2}{5}$ $\frac{2}{5}$

Add the two fractional parts together: $\frac{2}{5} + \frac{2}{5}$

A. $\frac{4}{5}$

B. $\frac{4}{10}$

C. 4

D. 6

M4N6b. Add and subtract fractions and mixed numbers with common denominators.
(Denominators should not exceed twelve.)

A group of people ordered pizza for lunch. At the end of lunch, there were $2\frac{1}{3}$ cheese pizzas and $\frac{2}{3}$ pepperoni pizza left over. How much total pizza was left over?

- A. $2\frac{1}{2}$ pizzas
- B. 2 pizzas
- C. 3 pizzas
- D. 4 pizzas

M4N6b. Add and subtract fractions and mixed numbers with common denominators. (Denominators should not exceed twelve.)

A group of people ordered pizza for lunch. At the end of lunch, there were $2\frac{1}{3}$ cheese pizzas and $\frac{2}{3}$ pepperoni pizza left over. How much total pizza was left over?

$$2\frac{1}{3} + \frac{2}{3} = 2\frac{3}{3} = 3$$

A. $2\frac{1}{2}$ pizzas

B. 2 pizzas

C. 3 pizzas

D. 4 pizzas

M4N6b. Add and subtract fractions and mixed numbers with common denominators. (Denominators should not exceed twelve.)

In Ann's flower garden, $\frac{1}{7}$ of the tulips are red, $\frac{4}{7}$ of the tulips are yellow, and the rest are white.
What fraction of the tulips are white?

A. $\frac{1}{7}$

B. $\frac{2}{7}$

C. $\frac{3}{7}$

D. $\frac{4}{7}$

In Ann's flower garden, $\frac{1}{7}$ of the tulips are red, $\frac{4}{7}$ of the tulips are yellow, and the rest are white.

What fraction of the tulips are white?

Add $\frac{1}{7} + \frac{4}{7} = \frac{5}{7}$

To find the rest $1 - \frac{5}{7} = \frac{2}{7}$

A. $\frac{1}{7}$

B. $\frac{2}{7}$

C. $\frac{3}{7}$

D. $\frac{4}{7}$

Derek is making hot fudge sauce using the recipe shown below.

Hot Fudge Sauce

- 12 ounces of chocolate chips
- $\frac{3}{4}$ cup of heavy cream
- 1 tablespoon of butter

If Derek is going to double the recipe, how many cups of heavy cream will he need?

- A. $2 \frac{3}{4}$
- B. $1 \frac{1}{2}$
- C. $1 \frac{1}{4}$
- D. $\frac{3}{8}$

M4N6b. Add and subtract fractions and mixed numbers with common denominators. (Denominators should not exceed twelve.)

Derek is making hot fudge sauce using the recipe shown below.

Hot Fudge Sauce

- 12 ounces of chocolate chips
- $\frac{3}{4}$ cup of heavy cream
- 1 tablespoon of butter

If Derek is going to double the recipe, how many cups of heavy cream will he need?

Doubling may mean adding the number to itself:

$$\frac{3}{4} + \frac{3}{4} = \frac{6}{4} = 1 \frac{2}{4} = 1 \frac{1}{2}$$

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

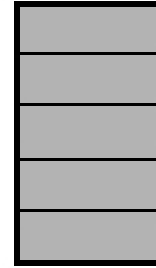
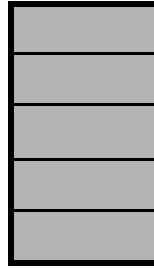
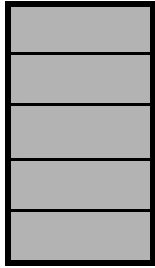
B. $1 \frac{1}{2}$

C. $1 \frac{1}{4}$

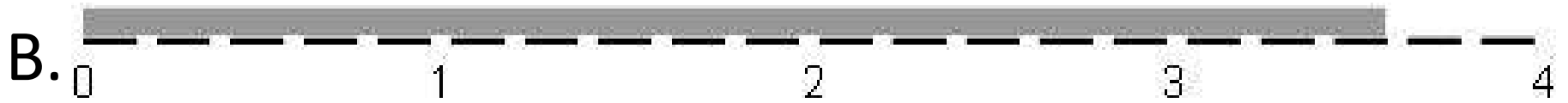
D. $\frac{3}{8}$

M4N6b. Add and subtract fractions and mixed numbers with common denominators. (Denominators should not exceed twelve.)

Which answer would NOT represent the entire amount shaded below?



A. $3\frac{3}{5}$

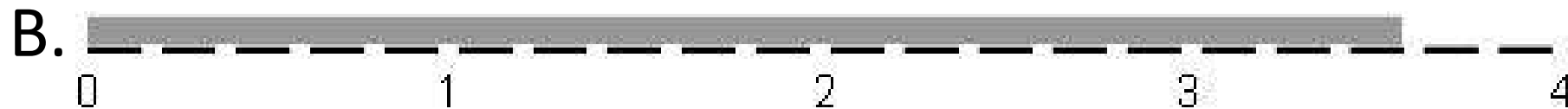
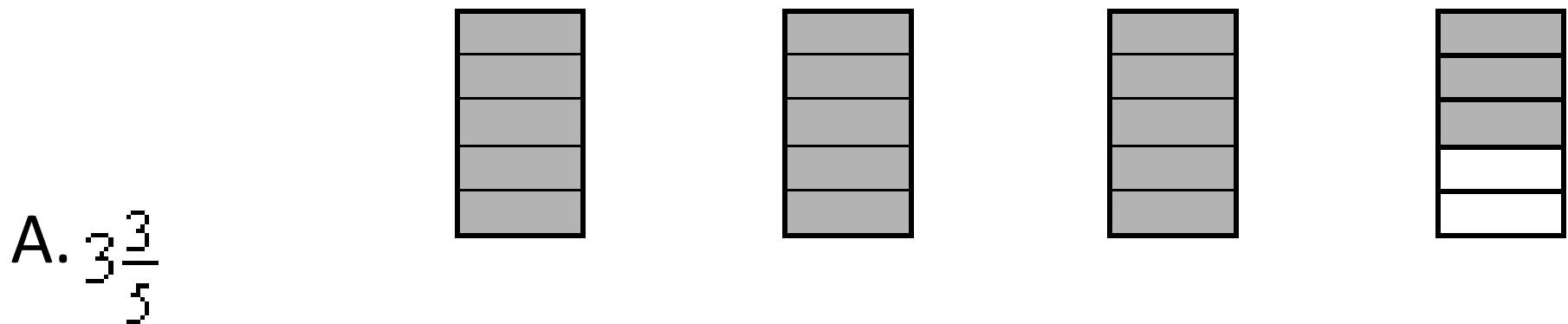


C. $\frac{18}{5}$

D. $\frac{5}{18}$

M4N6c. Convert and use mixed numbers and improper fractions interchangeably.

Which answer would NOT represent the entire amount shaded below? **There are 3 whole rectangles and $\frac{3}{5}$ of another one.**



C. $\frac{18}{5}$

D. $\frac{5}{18}$ This fraction is less than 1.

What is the value of b ?

$$b = 6 + 2 \times 5 - 4$$

A. 20

B. 36

C. 8

D. 12

What is the value of b ?

$$b = 6 + 2 \times 5 - 4$$

Remember PEMDAS (multiply before adding or subtracting): $6 + 2 \times 5 - 4 =$

$$6 + 10 - 4 =$$

$$16 - 4 = 12$$

A. 20

B. 36

C. 8

D. 12

M4N07b. Compute using the order of operations, including parentheses.

Ms. Reed travels a total of 78 miles each day that she goes to work. During July, she went to work 21 days.

Which of the following expressions has a value that is closest to the total number of miles Ms. Reed traveled to work in July?

A. 80×30

B. 70×20

C. 80×20

D. 75×20

Ms. Reed travels a total of **78 miles each day** that she goes to work. During July, she went to work **21 days**.

Which of the following expressions has a value that is **closest** to the total number of miles Ms. Reed traveled to work in July? **78 → 80; 21 → 20**

- A. 80×30
- B. 70×20
- C. 80×20**
- D. 75×20

What number goes in the \square to make the number sentence below true?

$$(42 + 35) + 26 = 42 + (\square + 26)$$

- A. 35
- B. 42
- C. 77
- D. 103

What number goes in the \square to make the number sentence below true?

$$(42 + 35) + 26 = 42 + (\square + 26)$$

The Associative property : When there are three addends, the sum does not change regardless of which two numbers are grouped together first.

A. 35

B. 42

C. 77

D. 103

M4N17.3 Compute using the commutative, associative, and distributive properties.

Which of the following goes in the box to make the statement below true?

$$(13 \times 8) \times 25 = \boxed{}$$

- A. $(13 \times 25) + (13 \times 8)$
- B. $(13 \times 25) + (8 \times 25)$
- C. $13 \times (8 + 25)$
- D. $13 \times (8 \times 25)$

Which of the following goes in the box to make the statement below true?

$$(13 \times 8) \times 25 = \boxed{}$$

The Associative property : When there are three factors, the product does not change regardless of which two numbers are grouped together first.

A. $(13 \times 25) + (13 \times 8)$

B. $(13 \times 25) + (8 \times 25)$

C. $13 \times (8 + 25)$

D. $13 \times (8 \times 25)$

Which of the following number sentences is true?

A. $42 \times 34 = (42 \times 3) + (42 \times 4)$

B. $42 \times 34 = (4 \times 30) + (2 \times 4)$

C. $42 \times 34 = (42 + 30) \times (42 + 4)$

D. $42 \times 34 = (42 \times 30) + (42 \times 4)$

Which of the following number sentences is true?

The Distributive Property: A product can be found by multiplying the addends of a number separately and then adding the products.

A. $42 \times 34 = (42 \times 3) + (42 \times 4)$

B. $42 \times 34 = (4 \times 30) + (2 \times 4)$

C. $42 \times 34 = (42 + 30) \times (42 + 4)$

D. $42 \times 34 = (42 \times 30) + (42 \times 4)$