Answer questions 1–40. Answer questions outlined in purple in your test book. Answer all other questions on the Answer Form.

1 While on vacation, Samantha bought 6 postcards to send to her friends. This was twice as many postcards as Nathan bought. Which equation shows the number of postcards, p, that Nathan bought?
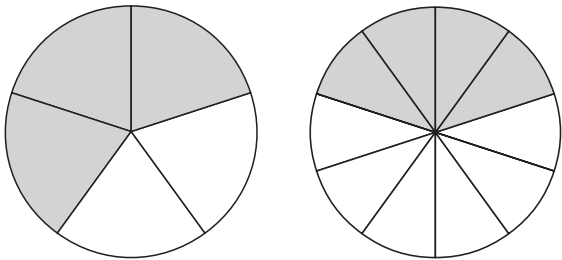
A $6 \div 2 = p; p = 3$

B $6 - 2 = p; p = 4$
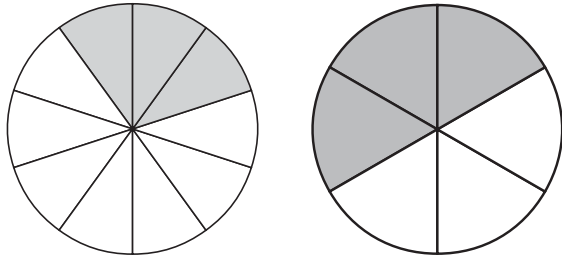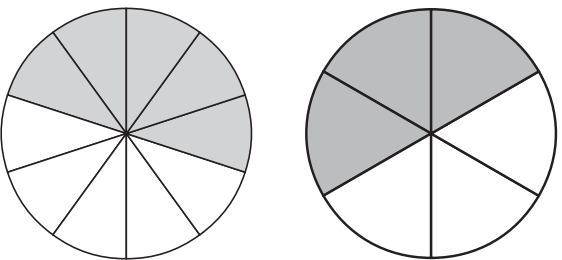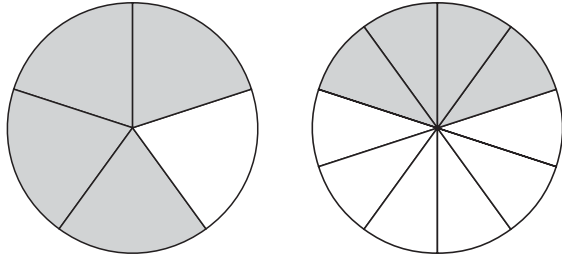
C $6 + 2 = p; p = 8$

D $6 \times 2 = p; p = 12$

Go On

2 Decide if the shaded part of each pair of models represents equivalent fractions. Mark Yes or No for each pair.

	Yes	No
a.	○	○
b.	○	○
c.	○	○
d.	○	○

3 Ella and her father are building a bookcase. Ella measures two boards that they are going to cut and use to make shelves. One board is 4.50 feet. The other is 4.55 feet.

$$4.50 \ \square \ 4.55$$

Which symbol should go in the box to compare the boards?

A $>$

B $=$

C $+$

D $<$

4 Nora makes a rectangular sign for her bedroom door. The sign has an area of 12 square inches. Each side length is greater than 2 inches but less than 7 inches.

Identify if the measurement could or could not be a side length of Nora's sign.

	Yes	No
3 inches	◯	◯
4 inches	◯	◯
5 inches	◯	◯
6 inches	◯	◯

Go On

5 Jin, Marco, and Myra each cut a length of wire for an electronics project.

- Jin's wire is 25 hundredths of a meter long.

- Marco's wire is 3 tenths of a meter long.

- Myra's wire is 0.2 meter long.

Which statements are true? Mark **all** that apply.

A Marco's wire is shorter than Jin's wire.

B Marco's wire is the longest.

C Jin's wire is longer than Myra's wire.

D Myra's wire is the longest.

6 Which equation explains the comparison of the value of the digit in the ten thousands place with the value of the digit in the tens place in this number?

252,353

A $300 \div 3 = 100$

B $5,000 \div 50 = 100$

C $50,000 \div 50 = 1,000$

D $200,000 \div 2,000 = 100$

7 For homework, Pete must use $<$, $>$, or $=$ to compare the following fractions:

$$\frac{2}{3} \square \frac{3}{5}$$

Pete thinks $\frac{2}{3}$ is less than $\frac{3}{5}$ because 2 is less than 3 and 3 is less than 5.

Why is Pete's claim wrong?

A Pete needs to find a common numerator. Because $2 \times 3 = 6$ and $3 \times 2 = 6$, $\frac{2}{3} = \frac{3}{5}$.

B Pete needs to find a common numerator. Because $\frac{2}{3}$ can be written as $\frac{3}{2}$, $\frac{2}{3} > \frac{3}{5}$.

C Pete needs to compare the fractions to $\frac{1}{2}$. Because $\frac{2}{3}$ and $\frac{3}{5}$ are both greater than $\frac{1}{2}$, $\frac{2}{3} = \frac{3}{5}$.

D Pete needs to find a common denominator. Because $\frac{2}{3} = \frac{10}{15}$ and $\frac{3}{5} = \frac{9}{15}$, $\frac{2}{3} > \frac{3}{5}$.

Go On

8 Brianne is choosing what to make for a bake sale. The amounts of sugar she needs for eight different recipes are given below.

$$\frac{4}{8} \text{ cup, } \frac{3}{4} \text{ cup, } 1\frac{1}{2} \text{ cups, } \frac{1}{2} \text{ cup, } \frac{3}{4} \text{ cup, } \frac{6}{8} \text{ cup, } 1 \text{ cup, } 1\frac{1}{4} \text{ cups}$$

Part A

Make a line plot of the data. Remember to give the line plot a title and label the units.

Part B

Three of the recipes use the same amount of sugar. What is the total amount of sugar Brianne will need if she makes these three recipes?

Show your work.

Answer _____ cup(s)

Part C

What is the difference between the greatest amount of sugar needed for a recipe and the least amount of sugar needed for a recipe?

Use your line plot to determine the answer.

Show your work.

Answer _____ cup(s)

Part D

If Brianne decides to make the three recipes that use the most sugar, how much sugar will she need?

Show your work.

Answer _____ cup(s)

Part E

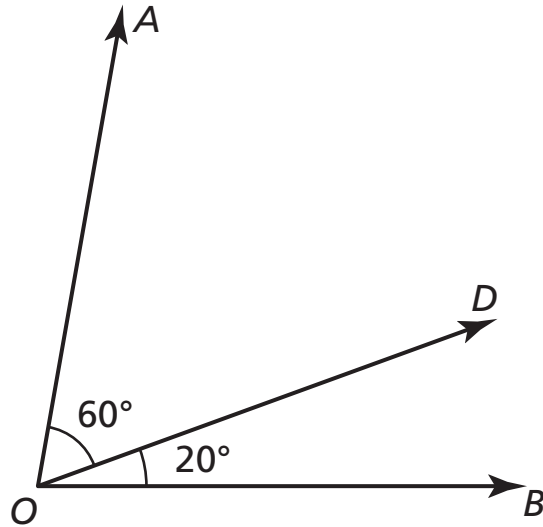How much sugar would Brianne need to make all eight recipes? Use your line plot to determine the answer.

Show your work.

Answer _____ cup(s)

Go On

9 What is the measure of an angle 3 times the measure of ∠AOB?
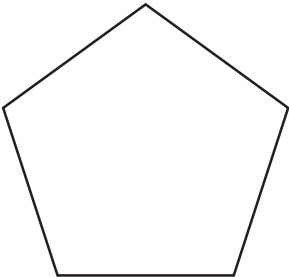
A 80°
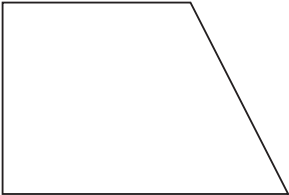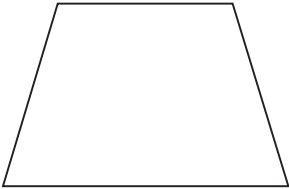
B 160°

C 180°

D 240°

10 Look at the figures below.

For each figure, mark an X in the box for any statement that describes the figure. You may mark more than one box for each figure.

	Has at least one acute angle	Has at least one pair of perpendicular sides	Has more than one obtuse angle
a.			
b.			
c.			
d.			

Go On

11 Jake rode 5 miles on his bicycle. His father biked 5 times as many miles. Which equation shows the number of miles Jake's father biked?

A $5 \times 5 = 25$

B $5 + 5 = 10$

C $5 \div 5 = 1$

D $5 - 5 = 0$

12 Rick adds $\frac{3}{10} + \frac{20}{100}$ using tenths and hundredths.

Using tenths:

$$\frac{3}{10} + \frac{2}{10} = \frac{5}{10}$$

Using hundredths:

$$\frac{3}{100} + \frac{20}{100} = \frac{23}{100}$$

What mistake did Rick make?

A Rick did not add using tenths correctly. He should have added $\frac{3}{10} + \frac{20}{10}$, for a sum of $\frac{23}{100}$.

B Rick did not add using tenths correctly. He should have added $\frac{30}{10} + \frac{20}{10}$, for a sum of $\frac{50}{100}$.

C Rick did not add using hundredths correctly. He should have added $\frac{30}{100} + \frac{20}{100}$, for a sum of $\frac{50}{100}$.

D Rick did not add using hundredths correctly. He should have added $\frac{3}{100} + \frac{2}{100}$, for a sum of $\frac{5}{10}$.

13 For homework, Amy needs to compare the following fractions:

$$\frac{2}{3} \square \frac{1}{4}$$

First, she compares them by finding the common denominator:

$$\frac{2}{3} = \frac{8}{12}$$

$$\frac{1}{4} = \frac{3}{12}$$

$$\frac{8}{12} > \frac{3}{12} \text{ so}$$

$$\frac{2}{3} > \frac{1}{4}$$

Then, she compares them by finding the common numerator:

$$\frac{2}{3}$$

$$\frac{1}{4} = \frac{2}{4}$$

$$\frac{2}{3} > \frac{2}{4} \text{ so}$$

$$\frac{2}{3} > \frac{1}{4}$$

Amy makes a mistake. What does she do wrong?

A She does not multiply correctly when finding the common denominator for $\frac{1}{4}$.

B She does not multiply correctly when finding the common numerator for $\frac{1}{4}$.

C She does not correctly compare $\frac{8}{12}$ and $\frac{3}{12}$ when finding the common denominator.

D She does not correctly compare $\frac{2}{3}$ and $\frac{2}{4}$ when finding the common numerator.

Go On

14 Emma has 3 packs of grape juice boxes and 3 packs of apple juice boxes. Each pack has the same number of juice boxes. Altogether there are 30 juice boxes.

Emma says this equation can be used to find the number of juice boxes in each pack, n:

$3 + 3 + n = 30$

Is she correct? Why or why not?

A Emma is not correct. She needs to add and then multiply: $3 + 3 = 6$; $6 \times n = 30$; $n = 30 \div 6$; there are 5 juice boxes in each pack.

B Emma is not correct. She needs to multiply: $3 \times n = 30$; $n = 10$; there are 10 juice boxes in each pack.

C Emma is correct. Using the equation $3 + 3 + n = 30$, or $n = 30 - 6$, she can tell that there are 24 juice boxes in each pack.

D Emma is correct. Using the equation $3 + 3 + n = 30$, or $n = 30 + 6$, she can tell that there are 36 juice boxes in each pack.

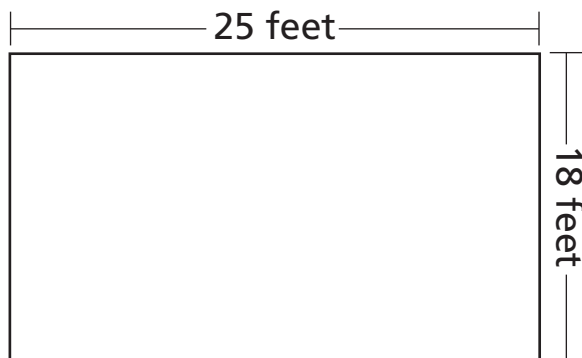**15** The shaded part of this hexagon represents a fraction of the whole.
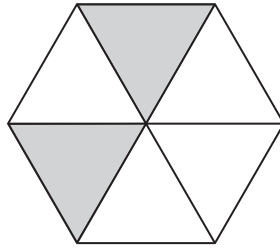
Does the shaded part of each hexagon represent the same fraction? Mark Yes or No.

	Yes	No
a.	○	○
b.	○	○
c.	○	○
d.	○	○

Go On

16 Jamie wants to put a fence around his rectangular garden. The diagram below shows the size of his garden.

25 feet

18 feet

[not drawn to scale]

How many feet of fencing will Jamie need?

Show your work.

Answer _____ feet

17 Will says, "When you multiply a 2-digit number by a 1-digit number, the product can have 3 digits."

Which of the following support his claim? Mark **all** that apply.

A 23×4

B 80×2

C 15×3

D 12×8

E 40×3

18 Cara earns $10 per hour babysitting. She is paid $10 per week for doing all of her chores. She also earns $5 each time she walks her neighbor's dog.

Cara asks her mother, "How much money did I earn in the four weeks this month?" Select information that is needed to answer Cara's question. Mark **all** that apply.

A   the amount of money she has in her piggy bank at the end of the month

B   the number of hours she babysat during the month

C   the number of chores she did during the month

D   the number of times she walked her neighbor's dog during the month

E   the number of children she babysat during the month

Go On

19 Alita is knitting a scarf. She will make $\frac{1}{8}$ of it using white yarn, $\frac{2}{8}$ using green yarn, $\frac{3}{8}$ using red yarn, and the rest of the scarf will be made with blue yarn.

Part A

What fraction of the scarf will be blue?

Show your work.

Answer _____

Part B

How much more of the scarf is red than white?

Show your work.

Answer _____

Part C

How much more of the scarf is red and green than white and blue?

Show your work.

Answer _____

Kristen is also making a scarf that is the same size as Alita's. She will make $\frac{2}{8}$ of it using white yarn, $\frac{3}{8}$ using green yarn, and $\frac{2}{8}$ using red yarn, and the rest will be made with blue yarn.

Part D

What fraction of Kristen's scarf will be blue?

Show your work.

Answer _____

Part E

How much more white yarn is Kristen using than Alita?

Show your work.

Answer _____

Part F

How much more blue yarn is Alita using than Kristen?

Show your work.

Answer _____

Go On

20 Dylan phones his friend at 7 o'clock. They talk for 15 minutes.

Part A

In that time, through what fraction of a circle will the minute hand of the clock move?

Answer _____ of a circle
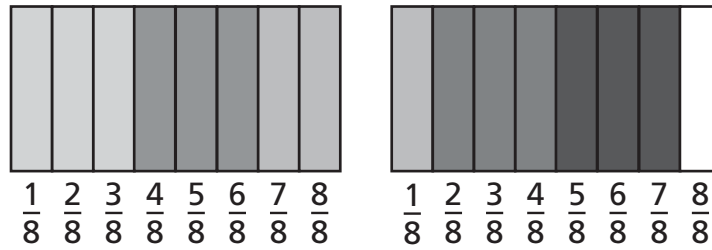
Part B

Through how many degrees will the minute hand move?

Show your work.

Answer _____ °

21 Which multiplication expression is represented by the shaded parts in this diagram?

$$\frac{1}{8} \quad \frac{2}{8} \quad \frac{3}{8} \quad \frac{4}{8} \quad \frac{5}{8} \quad \frac{6}{8} \quad \frac{7}{8} \quad \frac{8}{8} \qquad \frac{1}{8} \quad \frac{2}{8} \quad \frac{3}{8} \quad \frac{4}{8} \quad \frac{5}{8} \quad \frac{6}{8} \quad \frac{7}{8} \quad \frac{8}{8}$$

A $5 \times \frac{3}{8}$

B $16 \times \frac{1}{8}$

C $\frac{8}{8} \times \frac{7}{8}$

D $\frac{1}{8} \times \frac{15}{8}$

22 Solve.

$$9{,}782 - 3{,}891 + 2{,}715 = \underline{\hspace{1cm}}$$

Which shows the answer in expanded form?

A $5{,}000 + 800 + 90 + 1$

B $6{,}000 + 800 + 20 + 6$

C $8{,}000 + 600 + 6$

D $8{,}000 + 600 + 60$

Go On

23 Today is Kelly's birthday. Kelly's sisters, Rachel and Abby, are throwing Kelly a party.

Part A

Kelly is x years old. She is 4 years younger than Rachel. In 10 years, Rachel will be 24 years old. Write and solve an equation to find Kelly's age.

Answer _____ years old

Part B

Rachel is 2 years older than Abby. Write and solve an equation to find Abby's age.

Answer _____ years old

Part C

Rachel buys 20 party hats for the party and twice as many balloons. She buys 3 times as many napkins as balloons. How many napkins does Rachel buy?

Show your work.
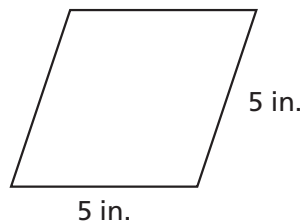
Answer _____ napkins

Part D

Rachel and Abby want to make enough cookies so that each guest can eat 2 at the party and take 2 home after the party. There will be 17 guests. One batch of cookies is 12 cookies. Rachel says 5 batches of cookies will be enough. Is Rachel correct? Explain your answer.

_____

_____

24 Kevin says all four side lengths in the figure below are 5 inches.

5 in.

5 in.

Which statement best supports Kevin's claim?

A   It is true if the figure has two sets of parallel lines.

B   It is true if the perimeter of the figure is 25 inches.

C   It is false if the perimeter of the figure is 20 inches.

D   It is false if the figure has two sets of parallel lines.

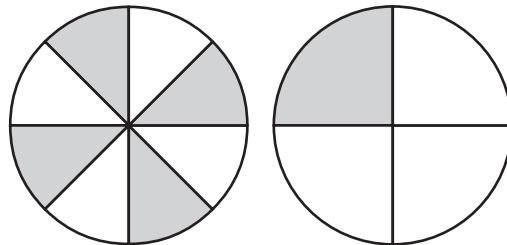**25** What number line shows that $\frac{1}{2} = \frac{3}{6}$?

A

0   1

B

0   1

C

0   1

D

0   1

Go On

26 Michaela wants to buy a shirt. She has $8 and plans to save $3 each week until she has the exact amount needed to buy the shirt.

Which could be the cost of the shirt? Mark **all** that apply.

A $18

B $20

C $24

D $32

E $33

---

27 Each model below represents a fraction.

Model 1   Model 2

Write numbers in the boxes to represent the fractions. Write $<$ or $>$ in the circle to complete an inequality that correctly compares the fractions.

Show your work.

Answer $\dfrac{\square}{\square} \bigcirc \dfrac{\square}{4}$

28 Jada is planning her brother's birthday party.

Part A

Jada makes the first party invitation using a rectangular piece of paper.

12 cm

Party!

8 cm

What is the area of the invitation?

Answer _____ square centimeters

Part B

Jada makes a "Happy Birthday" sign that is twice the length of the party invitation and 3 times the width. What is the area of the sign?

Answer _____ square centimeters

Go On

Part C

Jada buys these paper streamers to decorate for the party.

Red Streamer	Blue Streamer	Green Streamer	Yellow Streamer
144 in.	144 in.	144 in.	144 in.
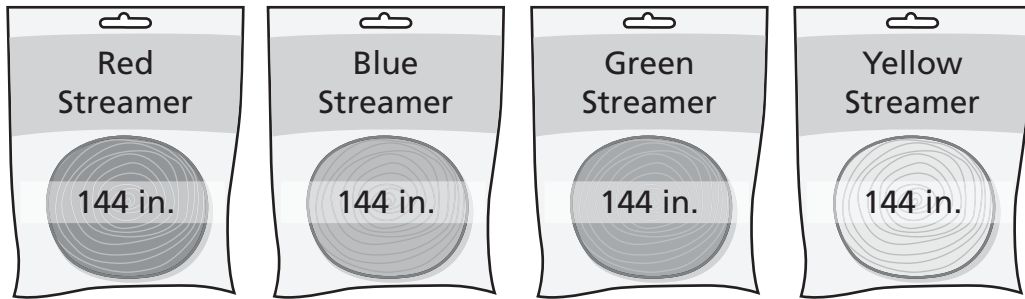
How many inches of streamers does she buy in all?

Answer _____ inches

Part D

Jada also buys 6 bottles of lemonade for the party. Each bottle holds 1,750 milliliters of lemonade. How many milliliters of lemonade does Jada buy in all?
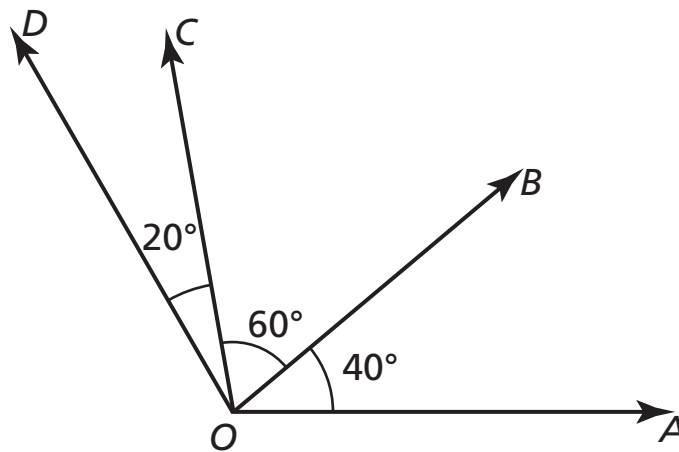
Answer _____ milliliters

29 Georgia earns $3,567 each month. She spends $2,895 each month and saves the rest of her money. Select the equation that shows how you can round to the nearest hundred to find about how much she saves each month.

A $4,000 − $3,000 = $1,000

B $3,570 − $2,900 = $670

C $3,600 − $2,900 = $700

D $3,500 − $2,900 = $800

30 What is the measure of ∠DOA?

A 60°

B 80°

C 100°

D 120°

Go On

31 Katrina walked $3\frac{7}{10}$ miles on Monday and $2\frac{5}{10}$ miles on Wednesday.

Part A

How many miles did she walk in all?

A 7 miles

B $6\frac{2}{10}$ miles

C $6\frac{2}{20}$ miles

D $2\frac{2}{10}$ miles

Part B

How much farther did she walk on Monday than on Wednesday?

A $1\frac{2}{10}$ miles

B $1\frac{8}{10}$ miles

C $2\frac{5}{10}$ miles

D $2\frac{8}{10}$ miles

32 Jake needs to solve the equation below:

$$32 \times 45 = ?$$

He rounds the factors and estimates the product to be about 2,000.

What is Jake's mistake?

A Jake rounds 32 to 30 and 45 to 50. He should round the factors to 40 and 50.

B Jake rounds 32 to 30 and 45 to 40. He should round the factors to 30 and 50.

C Jake rounds 32 to 40 and 45 to 50. He should round the factors to 40 and 40.

D Jake rounds 32 to 40 and 45 to 50. He should round the factors to 30 and 50.

33

Part A

Shade the second rectangle to model a fraction equivalent to the fraction modeled in the first rectangle.
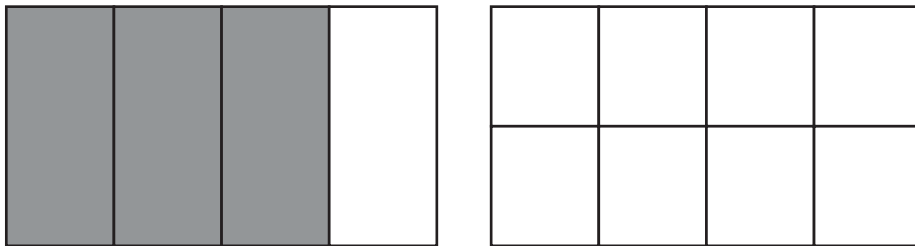
Part B

Complete the equation to represent the equivalent fractions shown in the models.

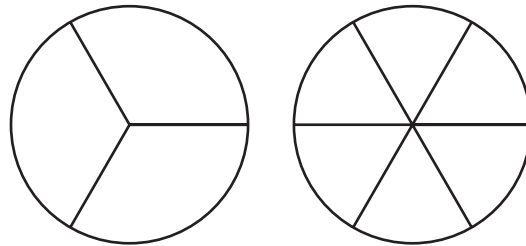$$\frac{3}{\square} = \frac{\square}{\square}$$

Go On

Part C

Explain how you know the fractions are equivalent.

_____

_____

Part D

Shade the models to show equivalent fractions.

Part E

What fractions did you shade? Explain how you know they are equivalent.

_____

_____

_____

34 James is adding $\frac{3}{4} + \frac{11}{8}$. He wrote $\frac{3}{4} + \frac{11}{8} = \frac{6}{8} + \frac{11}{8} = \frac{16}{16} = 1$.

James' approach is **not** correct. Select all the statements that could indicate mistakes with James' approach.

A He added the denominators.

B He did not write $\frac{11}{8}$ as a mixed number.

C He did not find the correct least common denominator.

D He did not add the numerators correctly.

E He added $\frac{6}{8}$ instead of $\frac{3}{4}$.

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35 Solve.

$$21{,}800 + 20{,}200 - 8{,}114 = \boxed{}$$

Answer _____

Go On

36 Matt is planning his day. He has a piano lesson at 5:30 p.m.

He leaves for school at 8:00 a.m.

He has lunch in the cafeteria at 11:30.

He finishes school at 2:30 p.m.

He goes to soccer practice from 2:45 to 3:45.

The car ride home usually takes 13 minutes.

Once Matt is home, he plans to spend

      30 minutes relaxing and having a snack

      45 minutes doing homework

      15 minutes doing chores

      15 minutes eating dinner

Which action will help Matt finish closer to the time he needs to be at his piano lesson?

A   Leave for school at 7:30 a.m. instead of 8:00 a.m.

B   Spend only 10 minutes relaxing and having a snack.

C   Do chores before homework.

D   Go to the cafeteria for lunch at 11:15 instead of 11:30.

37 Which pair of equivalent measures could complete the table? Mark **all** that apply.

Inches	Feet
60	5
108	9
?	?
1,200	100

A 200 inches and 10 feet

B 216 inches and 18 feet

C 240 inches and 22 feet

D 300 inches and 25 feet

E 400 inches and 40 feet

Go On

38 Mr. Williams is building a cement walkway from the street to his front door. The table below shows the area for walkways of different lengths.

Part A

It is 7 yards from the street to Mr. Williams' front door. He wants to find the total area of the walkway. Complete the table.

Length of Walkway (in yards)	Area of Walkway (in square yards)
1	$\frac{2}{3}$
2	$\frac{4}{3}$
3	2
4	$\frac{8}{3}$

Part B

What is the area of the walkway?

Answer _____ square yards

Part C

Mr. Williams may build a second walkway for his backyard that is 10 yards long and the same width as the first walkway. What would be the difference in the areas of the two walkways?

Answer _____ square yards

Part D

For what walkway lengths will the area be a whole number? Explain how you could use the pattern to answer this question.

_____

_____

_____

_____

39   Which expression does the shaded part of the model shown below represent?
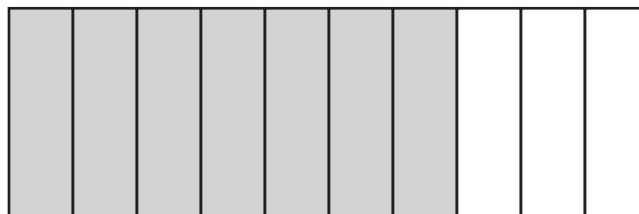
A $3 \times \frac{1}{10}$

B $3 \times \frac{10}{10}$

C $7 \times \frac{1}{10}$

D $7 \times \frac{10}{10}$

Go On

40 This model shows one way to find the quotient of 7,848 ÷ 4.

$$
\begin{array}{c|c}
 & 4 \\
\hline
1{,}900 & 7{,}600 \\
\hline
60 & 240 \\
\hline
2 & 8 \\
\end{array}
$$
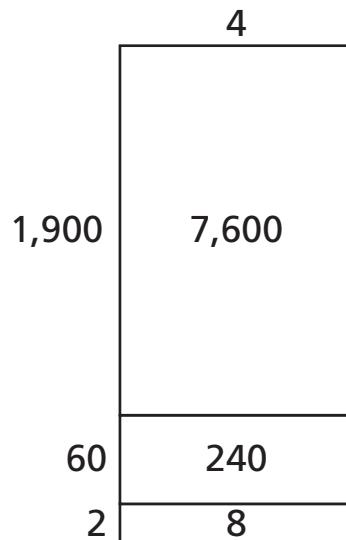
Which equation shows the final step in finding the quotient?

A   1,900 + 60 + 2 + 4 + 8 = 1,974

B   1,900 + 60 + 2 + 4 = 1,966

C   1,900 + 60 + 2 = 1,962

D   1,900 − 60 − 2 = 1,838

STOP

Name_____

Teacher_____ Grade_____

Assessment 1

1. Ⓐ Ⓑ Ⓒ Ⓓ
2. See page 2.
3. Ⓐ Ⓑ Ⓒ Ⓓ
4. See page 3.
5. Ⓐ Ⓑ Ⓒ Ⓓ
6. Ⓐ Ⓑ Ⓒ Ⓓ
7. Ⓐ Ⓑ Ⓒ Ⓓ
8. See page 6.
9. Ⓐ Ⓑ Ⓒ Ⓓ
10. See page 9.
11. Ⓐ Ⓑ Ⓒ Ⓓ
12. Ⓐ Ⓑ Ⓒ Ⓓ
13. Ⓐ Ⓑ Ⓒ Ⓓ
14. Ⓐ Ⓑ Ⓒ Ⓓ
15. See page 13.
16. See page 14.
17. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
18. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
19. See page 16.
20. See page 18.
21. Ⓐ Ⓑ Ⓒ Ⓓ

22. Ⓐ Ⓑ Ⓒ Ⓓ
23. See page 20.
24. Ⓐ Ⓑ Ⓒ Ⓓ
25. Ⓐ Ⓑ Ⓒ Ⓓ
26. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
27. See page 22.
28. See page 23.
29. Ⓐ Ⓑ Ⓒ Ⓓ
30. Ⓐ Ⓑ Ⓒ Ⓓ
31A. Ⓐ Ⓑ Ⓒ Ⓓ
31B. Ⓐ Ⓑ Ⓒ Ⓓ
32. Ⓐ Ⓑ Ⓒ Ⓓ
33. See page 27.
34. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
35. See page 29.
36. Ⓐ Ⓑ Ⓒ Ⓓ
37. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
38. See page 32.
39. Ⓐ Ⓑ Ⓒ Ⓓ
40. Ⓐ Ⓑ Ⓒ Ⓓ

TEACHER USE ONLY

2. ⓪ ①
4. ⓪ ①
8. ⓪ ① ② ③ ④ ⑤ ⑥
10. ⓪ ①
15. ⓪ ①
16. ⓪ ①
19. ⓪ ① ② ③ ④ ⑤ ⑥
20. ⓪ ① ②
23. ⓪ ① ② ③ ④
27. ⓪ ①
28. ⓪ ① ② ③ ④
33. ⓪ ① ② ③ ④ ⑤
35. ⓪ ①
38. ⓪ ① ② ③ ④ ⑤

Cut along the dotted line.