

Name

Key

Third Six Weeks Math Checkpoint Review

1. Owen and Bella shared a granola bar.

Bella ate $\frac{1}{4}$ of the granola bar. Owen ate $\frac{1}{3}$ of the bar. How much did Owen and Bella eat combined?

$$\frac{7}{12}$$

2. How long does it take to drive from Minneapolis to Chicago through Green Bay?

Route	Hours to Travel by Car
Minneapolis to Green Bay	$4\frac{5}{6}$
Green Bay to Chicago	$3\frac{2}{3}$

$$8\frac{1}{2}$$

3. Anna played tennis for $2\frac{1}{4}$ hours on Saturday and $1\frac{4}{5}$ hours on Sunday. How many hours did she play tennis during the weekend?

$$4\frac{1}{20}$$

4. Paul volunteered at the senior center for $3\frac{9}{10}$ hours on Saturday and $5\frac{1}{6}$ hours on Sunday. How many hours did Paul volunteer at the senior center on both days?

$$9\frac{1}{15}$$

5. Twenty-four out of 54 students participate in extra-curricular school activities. What fraction of the students participate in extra-curricular school activities?

$$\frac{4}{9}$$

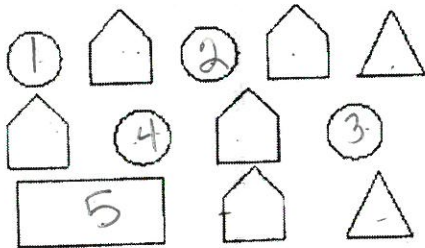
6. Use the table below. On which two days did Kayla run the same distance?

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Distance (Miles)	$\frac{7}{8}$	$\frac{5}{6}$	$\frac{14}{16}$	$\frac{10}{14}$	$\frac{9}{18}$

$$\frac{7}{8} = \frac{14}{16}$$

7. Gia walked $\frac{1}{4}$ mile from her house to the park, then $\frac{3}{8}$ mile around the park, and then $\frac{1}{4}$ mile back home. How many miles did she walk in all?

8. Of the shapes shown, $\frac{1}{3}$ are circles and $\frac{1}{12}$ are rectangles. What fraction of the shapes are either circles or rectangles?



$$\frac{5}{12}$$

9. Libby's dog stands $\frac{7}{9}$ yard tall, and Jeff's dog stands $\frac{5}{6}$ yard tall. How much taller is Jeff's dog than Libby's dog?

10. Suki had a piece of ribbon that was $\frac{7}{8}$ yard long. She cut off $\frac{2}{3}$ yard to tie back her hair. She wrote a fraction, in simplest form, for the amount of ribbon that was left. What was the numerator of the fraction?

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$$\frac{7}{8} \times 3 = \frac{21}{24}$$

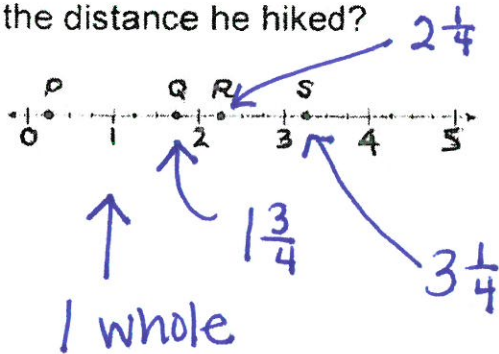
$$\frac{2}{3} \times 8 = \frac{16}{24}$$

numerator → $\frac{5}{24}$ denominator →

$\frac{21}{24} - \frac{16}{24} = \frac{5}{24}$

11.

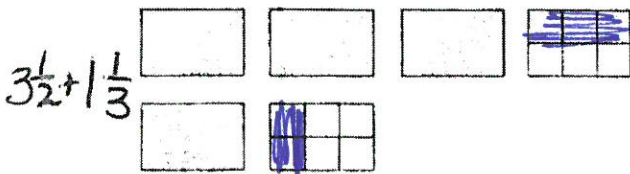
Jon hiked $1\frac{3}{4}$ miles. Which point on the number line best represents the distance he hiked?



14. Which list contains only prime numbers?

- A. 13, 17, 29
- B. 13, 17, 30
- C. 13, 18, 29
- D. 17, 27, 29

12. What is the sum?



$$\begin{array}{r} \frac{1}{2} \times 3 \\ + \frac{1}{3} \times 2 \\ \hline 3 \frac{3}{6} + \frac{2}{6} \\ \hline 3 \frac{5}{6} \end{array}$$

13. What is the difference $5\frac{1}{5} - 2\frac{3}{5}$?

$$\begin{array}{r} 4\cancel{5} \frac{1}{5} + \frac{5}{5} \\ - 2 \frac{3}{5} \\ \hline 2 \frac{3}{5} \end{array}$$

3rd six weeks checkpoint review

Multiple Choice

Identify the choice that best completes the statement or answers the question.

15. Which of these sums is greater than 1?

- a. $\frac{1}{5} + \frac{3}{8}$ > less
- b. $\frac{1}{3} + \frac{3}{10}$ > less
- c. $\frac{1}{8} + \frac{2}{5}$ > less than half
- d. $\frac{4}{5} + \frac{5}{8}$ both more than $\frac{1}{2}$

Handwritten calculations for Question 15:

- $\frac{4}{5} + \frac{5}{8} = \frac{32}{40} + \frac{25}{40} = \frac{57}{40}$
- $\frac{17}{40}$ (circled)
- $40 \overline{) 57} \begin{array}{r} -40 \\ \hline 17 \end{array}$ (circled)

16. Which shows $\frac{9}{48}$ in simplest form?

- a. $\frac{1}{4}$
- b. $\frac{1}{6}$
- c. $\frac{2}{8}$
- d. $\frac{3}{16}$

Handwritten calculations for Question 16:

- $\frac{9}{48} = \frac{3 \times 3}{16 \times 3} = \frac{3}{16}$
- $\frac{24}{48} = \frac{16}{32} = \frac{16}{48}$
- $\frac{16}{48} = \frac{16}{16 \times 3} = \frac{1}{3}$

17. Which improper fraction does NOT equal a whole number?

- a. $\frac{36}{12}$ ✓
- b. $\frac{28}{3}$ ✗
- c. $\frac{52}{4}$ ✓
- d. $\frac{75}{5}$ ✓

$12 \overline{) 36} \begin{array}{r} 3 \\ \hline \end{array}$

$4 \overline{) 52} \begin{array}{r} 13 \\ \hline \end{array}$

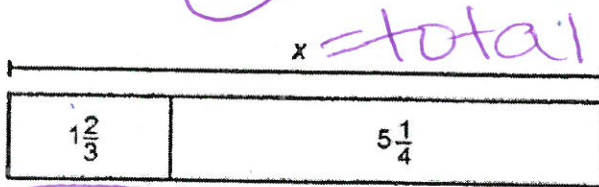
$\frac{12}{4} = \frac{13}{4} = \frac{4}{50}$

$3 \overline{) 28} \begin{array}{r} 9 \\ -27 \\ \hline 1 \end{array} \quad 9\frac{1}{3}$

Name: _____

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18. Colton used $1\frac{2}{3}$ boxes of tiles in the bathroom and $5\frac{1}{4}$ boxes of tiles in the kitchen. He drew the model below to find the total number of boxes he used. Which equation matches the model?



addition

- a. $1\frac{2}{3} + 5\frac{1}{4} = x$
- b. ~~$1\frac{2}{3} + x = 5\frac{1}{4}$~~
- c. ~~$5\frac{1}{4} - x = 1\frac{2}{3}$~~
- d. ~~$5\frac{1}{4} - 1\frac{2}{3} = x$~~

19. Carmen is making homemade bread for her family supper using the recipe below. Which fraction is another way to express the amount of flour in Carmen's recipe?

Carmen's Bread Recipe	
$4\frac{3}{4}$ cups of flour	$1\frac{1}{2}$ packages of yeast
$3\frac{1}{3}$ tablespoons of sugar	$1\frac{3}{8}$ sticks of butter
$2\frac{2}{3}$ teaspoons of salt	

$$4\frac{3}{4} \times 4 = \frac{19}{1}$$

$$\begin{array}{r} 4 \cdot 3 \\ \hline 12 \\ + 3 \\ \hline 15 \end{array}$$

$$12 + 3 = 15$$

- a. $\frac{19}{4}$ cups
- b. $\frac{16}{4}$ cups
- c. $\frac{11}{4}$ cups
- d. $\frac{7}{4}$ cups

$$5\frac{2}{3} \times 3 = \frac{17}{1}$$

Name 2 ~~fractions~~ fractions equivalent to $\frac{2}{3}$

(12) $\frac{2 \times 2}{3 \times 2} = \frac{4}{6}$

(18) $\frac{2 \times 3}{3 \times 3} = \frac{6}{9}$

$\frac{1}{4}$

(8) $\frac{1 \times 2}{4 \times 2} = \frac{2}{8}$

Third 6 Week Review

① $\frac{1}{4} + \frac{1}{3} =$

4: 4, 8, 12
 3: 3, 6, 9, 12

new denominator

$$\begin{array}{r} \frac{1}{4} \xrightarrow{\times 3} \frac{3}{12} \\ + \frac{1}{3} \xrightarrow{\times 4} \frac{4}{12} \\ \hline \frac{7}{12} \end{array}$$

② $4\frac{5}{6} + 3\frac{2}{3} =$

add whole #'s first.

$4 + 3 = 7$

then add fractions

$$\frac{5}{6} + \frac{2}{3} \xrightarrow{\times 2} \frac{4}{6} \rightarrow \frac{9}{6} \rightarrow \frac{6 \overline{) 9}}{3}$$

$\frac{3}{6} \leftarrow \text{simplify to } \frac{1}{2}$

$7 + 1\frac{1}{2} = 8\frac{1}{2}$

③ $2\frac{1}{4} + 1\frac{4}{5} =$

$\frac{1}{4} \xrightarrow{\times 5} \frac{5}{20}$

$\frac{4}{5} \xrightarrow{\times 4} \frac{16}{20}$

$4\frac{1}{20} = 3 + 1\frac{1}{20}$

$20 \overline{) 21} \frac{1}{20}$

$\frac{21}{20}$

2nd WEEK REVIEW

$$\textcircled{1} \quad \frac{1}{4} + \frac{1}{8} = \frac{2}{8} + \frac{1}{8} = \frac{3}{8}$$

$$\frac{1}{4} + \frac{1}{8} = \frac{2}{8} + \frac{1}{8} = \frac{3}{8}$$

1/4

1/8

1/4 + 1/8 = 3/8

1/4 + 1/8 = 3/8

$$\frac{1}{4} + \frac{1}{8} = \frac{3}{8}$$

$$\textcircled{2} \quad \frac{1}{4} + \frac{1}{8} = \frac{2}{8} + \frac{1}{8} = \frac{3}{8}$$

add across the line

$$1/4 = 2/8$$

then add fractions

$$\frac{2}{8} + \frac{1}{8} = \frac{3}{8}$$

$$\frac{1}{4} + \frac{1}{8} = \frac{2}{8} + \frac{1}{8} = \frac{3}{8}$$



1/4 + 1/8 = 3/8

$$\frac{1}{4} + \frac{1}{8} = \frac{2}{8} + \frac{1}{8} = \frac{3}{8}$$

$$\textcircled{3} \quad \frac{1}{4} + \frac{1}{8} = \frac{2}{8} + \frac{1}{8} = \frac{3}{8}$$

$$\frac{1}{4} + \frac{1}{8} = \frac{2}{8} + \frac{1}{8} = \frac{3}{8}$$

Third 6 Weeks Review

④ $3\frac{9}{10} + 5\frac{1}{6} =$

$3\frac{9}{10} \xrightarrow{\times 3} \frac{27}{30}$
 $5\frac{1}{6} \xrightarrow{\times 5} \frac{5}{30}$

10: 10, 20, 30
 6: 6, 12, 18, 24, 30

$8\frac{32}{30}$
 $\frac{30 \overline{) 32}}{30} = 2$
 $\frac{2}{30}$
 Simplify
 $\frac{2 \div 2}{30 \div 2} = \frac{1}{15}$
 $\frac{1}{15} + 8 = 8\frac{1}{15}$

Improper fraction must be changed into proper fraction.

⑤

$\frac{24}{54}$	$\frac{1 \times 24}{1 \times 54}$	$\frac{2 \times 12}{2 \times 27}$	$\frac{3 \times 8}{3 \times 18}$	$\frac{4 \times 6}{6 \times 9}$	$\frac{4}{9}$
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⑥ equivalent fractions. Simplify all.

$\frac{7}{8} = \frac{5}{6}$
 $\frac{14 \div 2}{16 \div 2} = \frac{7}{8}$
 $\frac{7}{8} = \frac{14}{16}$

THIRD N NECTS REVIEW

$$(1) \sum_{i=1}^n \frac{1}{i^2} = \frac{1}{1^2} + \frac{1}{2^2} + \dots + \frac{1}{n^2}$$

PROB. 1.2.1 (S. 1.2.1)

$$\frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{n}$$

for $n \geq 2$, $\frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{n} > \frac{1}{2}$

$$\frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{n}$$

induction

$$\left[\frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{n} \right] > \frac{1}{2}$$

(2) Let $n \geq 2$ and $k \geq 1$

(3) Induction hypothesis: $\frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{n} > \frac{1}{2}$

$$\left[\frac{1}{2} + \frac{1}{3} + \dots + \frac{1}{n} + \frac{1}{n+1} \right] > \frac{1}{2}$$

⑦ $\frac{1}{4} + \frac{3}{8} + \frac{1}{4} =$

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

$\frac{3}{8} + \frac{1}{2} =$

8: (8)
2: 2, 4, 6, (8)

$\frac{1 \times 4}{2 \times 4} + \frac{4}{8}$

$\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$

⑧ $\frac{1}{3} + \frac{1}{12}$

$\frac{1 \times 4}{3 \times 4} \rightarrow \frac{4}{12}$

3: 3, 6, 9, (12)
12: (12)

$\frac{1}{12}$ SAME $\rightarrow \frac{1}{12}$

$\frac{4}{12} + \frac{1}{12} = \frac{5}{12}$

⑨ SUBTRACTION!

$\frac{7}{9} - \frac{5}{6}$

~~$\frac{7}{9} - \frac{5}{6}$~~

9: 9, (18)
6: 6, 12, (18)

$\frac{15}{18} - \frac{14}{18} = \frac{1}{18}$

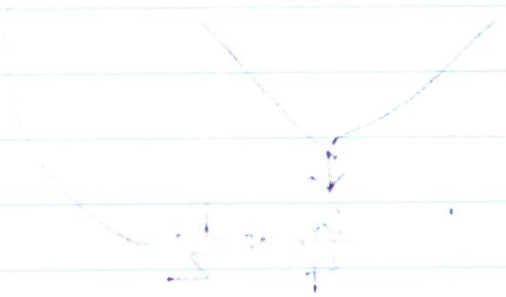
$$\frac{1}{4} + \frac{2}{8} + \frac{1}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$$

$$\frac{2}{8} + \frac{2}{8}$$

$$\frac{1}{8} + \frac{1}{8}$$

$$\frac{1}{2}$$

⑧: 2
⑨: 2, 2, 2, 2

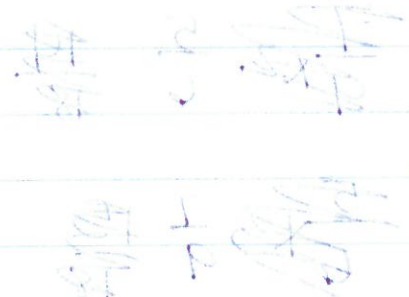


$$\frac{1}{8} + \frac{1}{8}$$



⑩ SUBTRACTION!

12
12
12



$$\frac{1}{2} - \frac{1}{2}$$

$$\frac{1}{20}$$

⑪: 2, 2, 2
⑫: 2, 2, 2, 2