

Grade 7 Math Test
Unit 5 Operations with Fractions

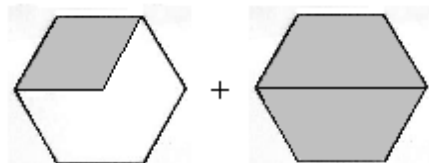
Name: _____

Part A: Multiple Choice. Circle the best answer.

1. Which addition statement best represents the model below?

1. C

7N5.1



- A. $1 + 1 = 2$
 B. $\frac{1}{3} + 1 = \frac{3}{2}$
 C. $\frac{1}{3} + 1 = 1\frac{1}{3}$
 D. $\frac{1}{3} + \frac{2}{2} = \frac{2}{3}$

2. What is the answer to $\frac{3}{10} + \frac{3}{10}$ in **lowest terms**?

2. D

7N5.2

A. $\frac{0}{10}$

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

C. $\frac{6}{10}$

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

$$\begin{aligned} &= \frac{6 \div 2}{10 \div 2} \\ &= \frac{3}{5} \end{aligned}$$

3. Find a common denominator for the fractions $\frac{1}{5}$ and $\frac{2}{3}$.

3. D

7N5.3

A. 3

B. 5

C. 8

D. 15

mult. of 5: 5, 10, 15, 20, ...

mult. of 3: 3, 6, 9, 12, 15, ...

4. What is $\frac{6}{18}$ written in lowest terms?

4. C

7N5.4

A. $\frac{6}{18}$

B. $\frac{3}{9}$

C. $\frac{1}{3}$

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

$$\frac{6 \div 6}{18 \div 6} = \frac{1}{3}$$

5. Add $\frac{2}{3} + \frac{5}{9}$. Reduce your answer if necessary.

5. A

7N5.6

best answer!

- A. $\frac{11}{9}$
B. 1
C. $1\frac{1}{9}$
D. $\frac{7}{12}$

$$\frac{2 \times 3}{3 \times 3} + \frac{5}{9} = \frac{6}{9} + \frac{5}{9} = \frac{11}{9} = 1\frac{2}{9}$$

6. What is the difference between $\frac{7}{9} - \frac{5}{9}$? Reduce answer if necessary.

6. D

7N5.8

A. 2

B. 0

C. $\frac{2}{0}$

D. $\frac{2}{9}$

$$= \frac{2}{9}$$

7. If Samantha eats $\frac{2}{3}$ of the pizza and Devon eats $\frac{1}{4}$ of the pizza, how much more pizza does Samantha eat than Devon?

7. B

7N5.9

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

B. $\frac{5}{12}$

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

D. $\frac{4}{12}$

$$\frac{2 \times 4}{3 \times 4} - \frac{1 \times 3}{4 \times 3} = \frac{8}{12} - \frac{3}{12} = \frac{5}{12}$$

8. If Sandra drinks $1\frac{3}{4}$ L of Crystal Lite and then drinks $2\frac{2}{3}$ L of milk, what is the total amount of liquids that she drank?

8. D

7N5.15

A. 4 L

B. 3 L

C. $3\frac{5}{12}$ L

D. $4\frac{5}{12}$ L

+

$$1\frac{3 \times 3}{4 \times 3} + 2\frac{2 \times 4}{3 \times 4} = 1\frac{9}{12} + 2\frac{8}{12}$$

$$= 3 + \frac{17}{12}$$

$$= 3 + 1\frac{5}{12}$$

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

9. What is $2\frac{7}{8} - 1\frac{1}{4}$? Reduce your answer if necessary. 9. C

① Change to improper fractions!
② Common denominators.

7N5.14

A. $1\frac{6}{4}$

B. $1\frac{3}{2}$

C. $1\frac{5}{8}$

D. $1\frac{2.5}{4}$

$$\frac{23}{8} - \frac{5 \times 2}{4 \times 2} = \frac{23}{8} - \frac{10}{8} = \frac{13}{8} = 1\frac{5}{8}$$

7N5.10

10. What addition equation best represents the model below?

10. A



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

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

~~C. $4\frac{3}{4} + 8\frac{3}{8} = 12\frac{1}{8}$~~

~~D. $4\frac{3}{4} + 8\frac{3}{8} = 12\frac{6}{12}$~~

Part B: Complete all questions and be sure to show all your workings.

1. Use a model of your choice to find each solution. State the answer.

(4 marks)

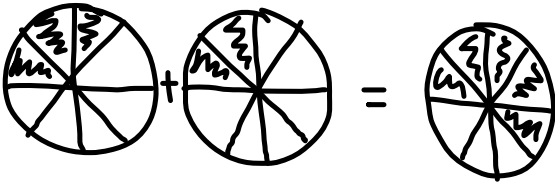
7N5.7

$$A) \frac{3}{8} + \frac{1}{4} \times 2$$

7N5.12

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

$$= \frac{5}{8}$$

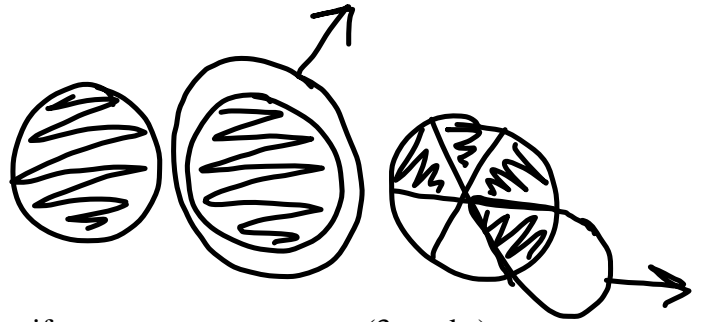


$$B) 2\frac{2}{3} - 1\frac{1}{6} \times 2$$

$$= 2\frac{4}{6} - 1\frac{1}{6}$$

$$= 1\frac{3}{6} \div 3$$

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



2. Calculate each answer. Reduce your answer if necessary.

(3 marks)

$$A) \frac{1}{6} + \frac{2}{6}$$

$$= \frac{3 \div 3}{6 \div 3}$$

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

$$B) \frac{5}{12} - \frac{1}{6} \times 2$$

$$= \frac{5}{12} - \frac{2}{12}$$

$$= \frac{3 \div 3}{12 \div 3}$$

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

7N5.2
&
7N5.6

3. Estimate, then calculate each operation. Reduce your answer if necessary. (6 marks)

7N5.7
& 5.9

$\frac{3}{8} - \frac{1}{8}$	$\frac{2}{9} + \frac{5}{6}$
Estimate $\frac{1}{2} - 0 = \frac{1}{2}$	Estimate $0 + 1 = 1$
Actual Solution $\frac{3}{8} - \frac{1}{8}$ $= \frac{2 \div 2}{8 \div 2}$ $= \frac{1}{4}$	Actual Solution <u>mult. of 9: 9, 18, 27, 36, ...</u> <u>mult. of 6: 6, 12, 18, 24, ...</u> $\frac{2 \times 2}{9 \times 2} + \frac{5 \times 3}{6 \times 3}$ $= \frac{4}{18} + \frac{15}{18}$ $= \frac{19}{18}$ $= 1\frac{1}{18}$

4. This week, Mark practiced piano for $2\frac{1}{2}$ hours, played soccer for $5\frac{1}{4}$ hours and talked on the phone for $1\frac{1}{3}$. What was the total amount of time spent on these activities? Reduce your answer if necessary. (3 marks)

$$2\frac{1 \times 6}{2 \times 6} + 5\frac{1 \times 3}{4 \times 3} + 1\frac{1 \times 4}{3 \times 4} = 2\frac{6}{12} + 5\frac{3}{12} + 1\frac{4}{12}$$

7N5.15

mult. of 2: 2, 4, 6, 8, 10, 12, ...
mult. of 4: 4, 8, 12, 16, ...
mult. of 3: 3, 6, 9, 12, ...

$$= 8 + \frac{13}{12}$$

$$= 8 + 1\frac{1}{12}$$

$$= 9\frac{1}{12}$$

He spent $9\frac{1}{12}$ h on these activities

5. Find the answer and be sure to put your fraction in lowest terms. (8 marks)

$$A) \frac{2\frac{2}{9} + 1\frac{5}{6} \times 3}{1 \times 2 \times 3} = \frac{4}{18} + 1\frac{15}{18} = 1 + \frac{19}{18} = 1 + 1\frac{1}{18} = 2\frac{1}{18}$$

mult. of 9: 9, 18, 27, 36, ...

mult. of 6: 6, 12, 18, 36, ...

$$B) \frac{3\frac{5}{5} + 1\frac{1}{5}}{1 \times 5} = \frac{15}{5} + 1\frac{1}{5} = 1 + \frac{16}{5} = 1 + 3\frac{1}{5} = 4\frac{1}{5}$$

7N5.13
&
7N5.14

$$C) \frac{2\frac{4}{4} - \frac{3}{4}}{1 \times 4} = \frac{8}{4} - \frac{3}{4} = \frac{5}{4} = 1\frac{1}{4}$$

$$D) \frac{2\frac{4}{7} - 1\frac{2}{3}}{\begin{array}{c} \uparrow \quad \uparrow \\ \times \quad \times \end{array}} = \frac{18 \times 3}{7 \times 3} - \frac{5 \times 7}{3 \times 7} = \frac{54}{21} - \frac{35}{21} = \frac{19}{21}$$