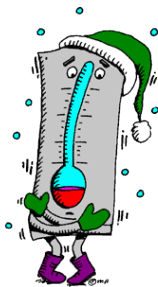


Curriculum Outcome

N1: Demonstrate an understanding of rational numbers by: comparing and ordering rational numbers; solving problems that involve arithmetic operations on rational numbers.

Student Friendly:

“Adding Fractions and Adding Decimals”



Warm Up

Grade 9

Determine the sum of each of the following

$$1) \quad \frac{-3}{7} + \left(\frac{-3}{7}\right) = \frac{-6}{7}$$

$$2) \text{ a) } 2.7 + 1.8 \\ = 4.5$$

$$\text{b) } -3.7 + 4.5 \\ = 0.8$$

$$\text{c) } 2.7 + (-8.7) \\ = -6$$

Class/Homework

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Don't just give answers copy down the addition statement (Not directions)



- 5 (bc) Use Calculators no # line needed
- 6 (all) Use Calculators no # line needed
- 7 (ac) Leave in fractional form (no calculator)
- 9 (acf) Use Calculators

Copy Down

Adding Fractions

When adding fractions you need a COMMON DENOMINATOR:

$$1) \quad \frac{-5}{8} + \frac{6}{8}$$

$$=$$

$$2) \quad \frac{-8}{7} + \frac{-4}{7}$$

$$=$$

$$\frac{3}{5} + \frac{4}{5}$$

$$\frac{3}{5} + \frac{-4}{5}$$



**Find a Common Denominator
by determining the LCM.**

L owest

C ommon

M ultiple

Find a common denominator:

$$\frac{4}{5} + \frac{8}{3}$$

$\xrightarrow{\times 3}$ $\frac{12}{15} + \frac{40}{15}$ $\xrightarrow{\times 5}$

$$= \frac{52}{15}$$

Multiples

5

3

3, 6, 9, 12, 15, 18

5, 10, 15

$$\frac{3}{4} + \frac{-5}{6}$$

Find the LCM first!



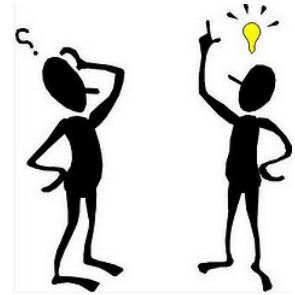
$$= \frac{\quad}{\quad} + \frac{\quad}{\quad}$$

What about mixed numbers?

$$2\frac{1}{3} + 2\frac{3}{5}$$

Handwritten annotations: Red arrows show the conversion of the whole number 2 to a fraction with the denominator of the fractional part. For $2\frac{1}{3}$, an arrow goes from the 2 to the denominator 3, and another arrow goes from the 2 to the numerator 1. A red 'x' is written below the 3. A similar process is shown for $2\frac{3}{5}$.

Option 1



Step 1: Write each mixed number as an improper fraction.

$$\frac{7}{3} + \frac{13}{5}$$

Handwritten annotations: The numerators 7 and 13 are written in red, and the denominators 3 and 5 are written in green.

Step 2: Find a common denominator, and then add numerators.

$$\frac{35}{15} + \frac{39}{15}$$

Handwritten annotations: An orange arrow labeled 'x5' points from the denominator 3 of the first fraction to the denominator 15. Another orange arrow labeled 'x3' points from the denominator 5 of the second fraction to the denominator 15.

$$= \frac{74}{15}$$

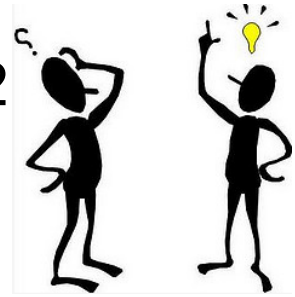
$$= 4\frac{14}{15}$$

The final result is enclosed in a green hand-drawn box.

What about mixed numbers?

$$2\frac{1}{3} + 2\frac{3}{5}$$

Option 2



Step 1: Add Integers together.

$$2 + 2 = \boxed{4}$$

Step 2: Add Fractional parts together (must have common denominators).

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

$\times 5$ $\frac{5}{15}$ $\times 3$ $\frac{9}{15}$

$$\boxed{\frac{14}{15}}$$

$$4 + \frac{14}{15} = \boxed{4\frac{14}{15}}$$

$$1 \frac{3}{4} + 2 \frac{3}{5}$$

Practice!

$$1) 5\frac{7}{8} + (-3\frac{1}{2})$$

$$\frac{47}{8} + \left(\frac{-7}{2}\right)$$

$$\frac{47}{8} + \frac{-28}{8}$$

$$= \frac{19}{8}$$

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

$$1) 5\frac{7}{8} + (-3\frac{1}{2})$$

$$5 + (-3)$$

$$= \boxed{2}$$

$$\frac{7}{8} + \left(-\frac{1}{2}\right)$$

$$\frac{7}{8} + \frac{-4}{8}$$

$$\boxed{\frac{3}{8}}$$

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

$$2) (-1\frac{2}{3}) + (-2\frac{1}{4})$$

$$\frac{-5}{3} + \frac{-9}{4}$$

$\xrightarrow{\times 4}$ $\xrightarrow{\times 3}$

$$\frac{-20}{12} + \frac{-27}{12}$$

$$= -\frac{47}{12}$$

$$= -3\frac{11}{12}$$

$$2) (-1\frac{2}{3}) + (-2\frac{1}{4})$$

$$-1 + -2$$

$$= -3$$

$$-\frac{2}{3} + -\frac{1}{4}$$

$$-\frac{8}{12} + -\frac{3}{12}$$

$$= -\frac{11}{12}$$

$$-3\frac{11}{12}$$

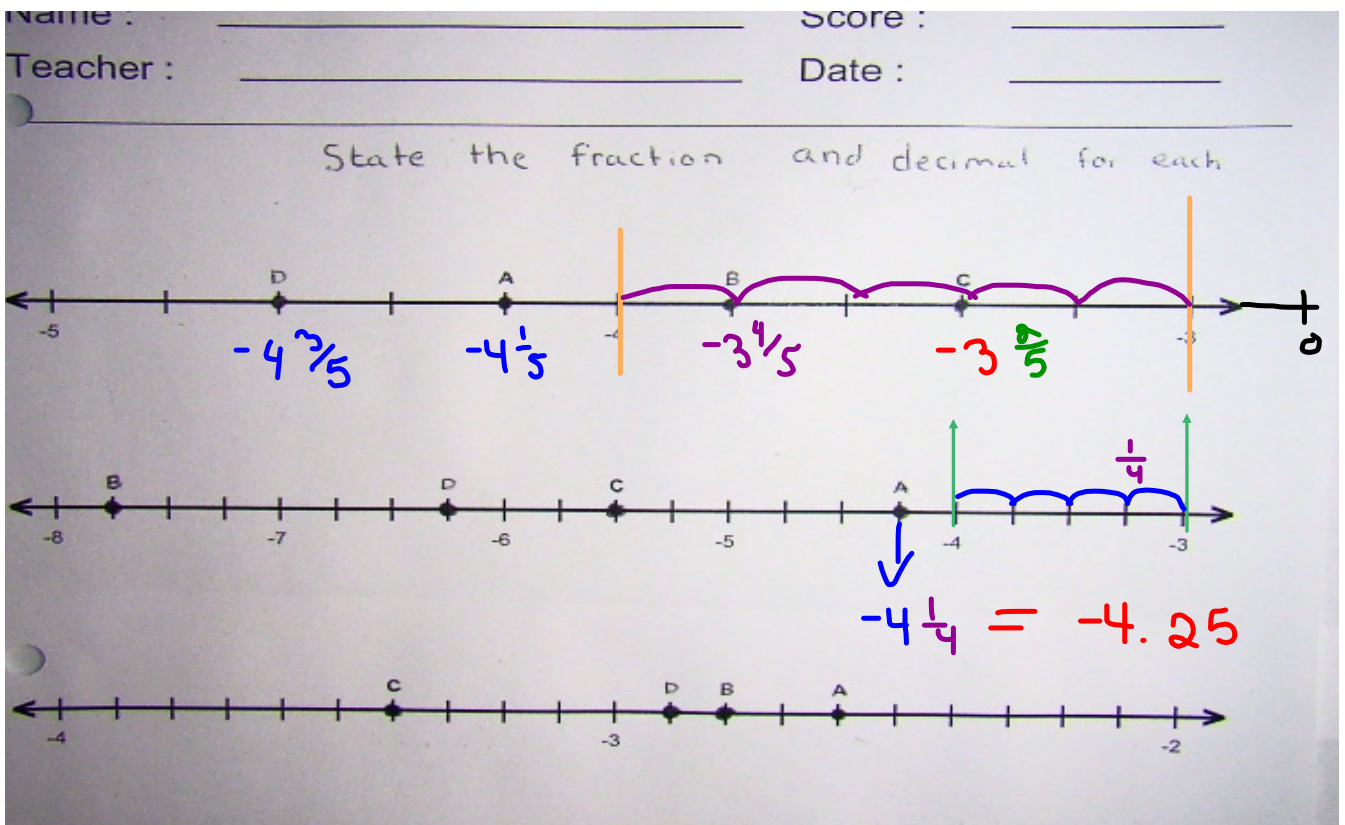


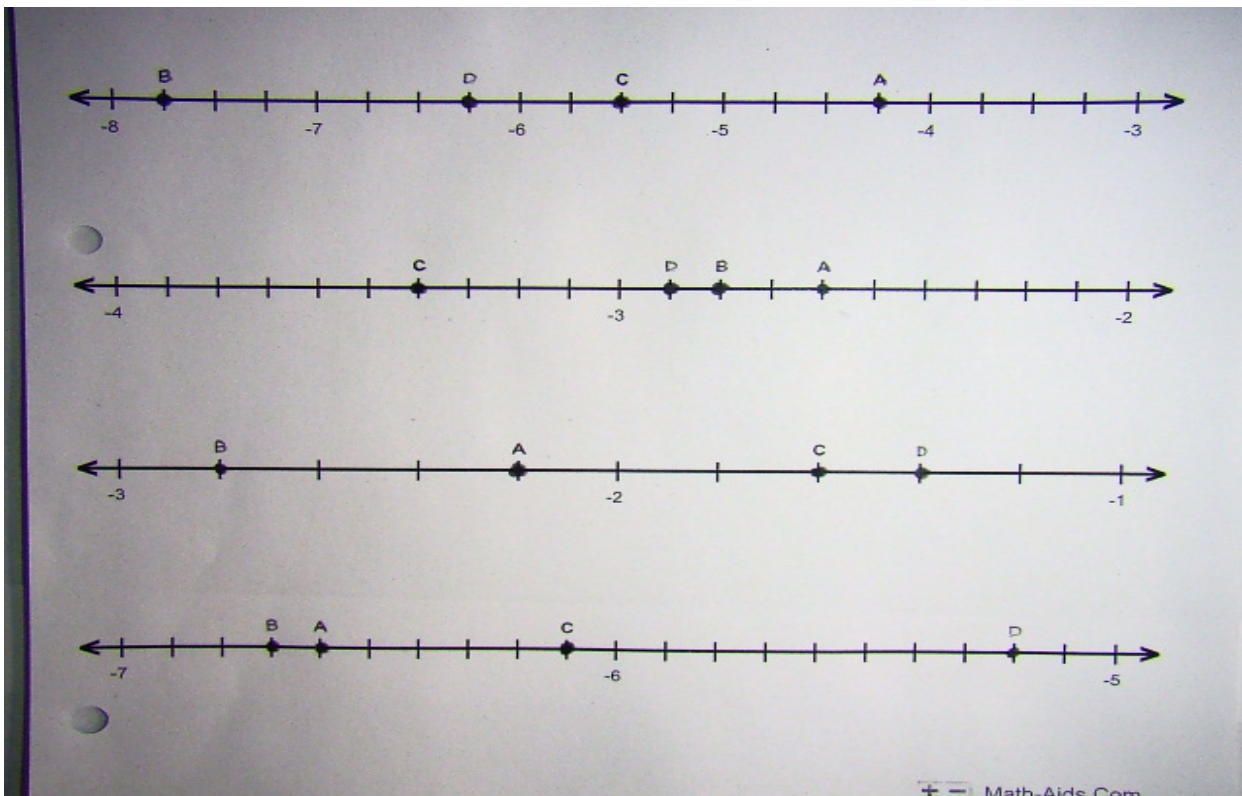
Classwork / Homework:

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11(acegi) (MUST USE COMMON DENOMINATOR)

13, 16, 17(a, b, c), 18







Classwork / Homework:

p. 111 - 113

Must show work when you see
fractions

11(b,d,f,h,j) (Without calculator)

13, 16, 17(a, b, c), 18, 19(a, c), 20(ac)