Illustrative Mathematics

Unit 9 Lesson 12: Number Talk

WU Number Talk: A Whole Number and a Fraction (Warm up)

Student Task Statement

Find the value of each expression mentally.

- $6 \times \frac{1}{4}$
- $6 \times \frac{3}{4}$
- $18 \times \frac{3}{4}$
- $180 \times \frac{3}{4}$

1 Related Numbers, Related Expressions

Student Task Statement

1. Here are two addition expressions. Think of at least two different ways to find the value of each sum mentally.

   a. $15 + 29$

   b. $30 + 58$

2. Here are three subtraction expressions. Think of at least two different ways to find the value of each difference mentally.

   a. $91 - 11$

   b. $91 - 16$

   c. $391 - 86$

3. Can you write a fourth subtraction expression that uses the same strategy you used to find the value of the other differences?

2 Add One New Expression, Then Two

Student Task Statement

1. Here are three division expressions. Find the value of each quotient mentally and think about how they might be related.

- $35 \div 5$
- $70 \div 5$
- $210 \div 5$
- _____

Write a new division expression whose value can be found more easily after working through the first three.

2. Here are two multiplication expressions. Analyze them and think about how they might be related.

- 21×7
- 42×7
- _____
- _____

Write two new expressions. Be prepared to explain your reasoning for each expression.

one expression ÷

× TWO expressions

3 Add Three New Expressions (Optional)

Student Task Statement

Here are four expressions you could use to start a Number Talk activity.

$75 + 30$ $\qquad$ $160 - 51$ $\qquad$ $24 \div 8$ $\qquad$ $3 \times \frac{1}{6}$

1. Choose one starting expression. Think of at least two different ways to find its value mentally.
2. Write three equations to create a Number Talk activity. Be prepared to explain your reasoning for writing each expression.

_____ (starting expression)

_____

_____

_____

3. Create an answer key for your Number Talk. Include at least one way to find the value of each expression mentally.