

MeTEOR Performance Task

Seventh Grade

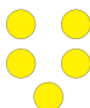
Mathematics
Modeling Integers

Performance Task Item: Modeling Integers

Task/Question 1:

For the Tasks Below, Yellow Chips are Positive (+) and Red Chips are Negative (-)

A. What integer is represented by the figure below?

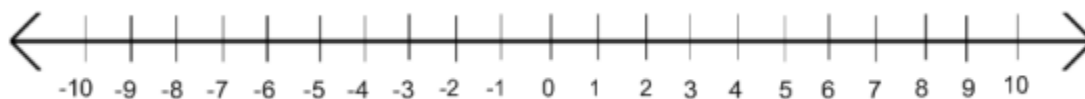


B. What integer is represented by the figure below?



C. Draw a model using counters for the following expression: $-3 + 3$

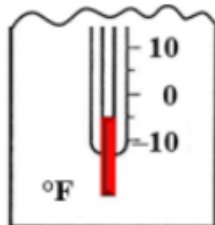
D. Plot 3 and -3 on the number line below.



E. Evaluate $-3 + 3$:

Task/Question 2:

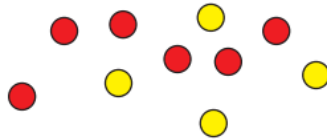
- A.** What temperature would be 15° more than the temperature shown on the thermometer below?



- B.** Jim's cell phone bill is automatically deducting \$32 from his bank account every month. Write an integer that represents the total deductions for the year?
- C.** A submarine was situated 450 feet below sea level. If it descends 300 feet, what is its new position?

Task/Question 3:

- A.** Red (negative) and yellow (positive) chips represent the sum of positive and negative numbers for the equation shown below. Write the two equations and the sum each represents:



- B.** Red (negative) and yellow (positive) chips represent the sum of positive and negative numbers for the equation shown below. Write the two equations and the sum each represents:



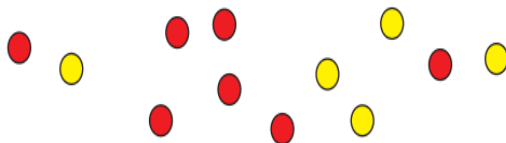
- C.** Explain why the expressions in Part A and Part B have the same sum.
- D.** Write another equation that has the same sum. Justify your reasoning using yellow (positive) and red (negative) chips.

Task/Question 4:

- A.** Represent each number in two different ways using positive (Yellow) and negative (Red) chips. Each representation must include *both* positive and negative chips.

Number	Chip Representation 1	Chip Representation 2
-5		
2		

- B.** Red (negative) and yellow (positive) chips represent the sum of positive and negative numbers. Explain why the figure below represents -2.



Task/Question 5:

- A. Explain $(-2) + 5$. Model using colored chips. Are you able to remove any? Why? Defend your thinking.

- B. Explain $a + b$ if both a and b are positive numbers. Model using colored chips. Will the answer always be positive? Why? Defend your thinking.

- C. Explain $(-a) + (-b)$ if $(-a)$ and $(-b)$ both represent negative numbers. Model using colored chips. Will the answer always be negative? Why? Defend your thinking.

- D. Explain $2 + 8 + (-7)$. Model using colored chips. How does having three terms change the strategy you have been using to solve the other problems?

Task/Question 6:

- A.** Create an original scenario that incorporates a minimum of 10 transactions or events that would conclude with a **sum of 100**. Utilize both positive and negative integers within your transactions or events. Explain each transaction or event as positive or negative and how the sum was affected at that time. Be prepared to share and defend your scenario.



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