Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**CFS for top quality work**

* + Problem is annotated
	+ Model is drawn to represent **known** and **unknown** information
	+ Expression or equation is written
	+ All calculations are shown and check is performed
	+ Answer statement is written

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

UNIT 1 LESSON 4

**AIM:** SWBAT calculate and interpret sums of integers in real-world multi-step problems

**THINK ABOUT IT!**

In a football game, one team makes four plays during their first possession. The results of those plays (in order) were: gain of 15 yards, loss of 13 yards, loss of 21 yards, and a gain of 46 yards. Determine the total number of yards that the team either gained or lost.

Key Point

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| Mathematics use \_\_\_\_\_\_\_\_\_\_\_ to make sense of and solve complex problems. |

**Interaction with New Material**

**Ex. 1)** The temperature in Juno, Alaska at 6am was -10 degrees. By noon, the temperature had increased 23 degrees and by 4pm the temperature had increased an additional 8 degrees. However, as soon as the sun went down at 7pm, the temperature rapidly dropped 30 degrees. What was the temperature after the sun went down?

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**PARTNER PRACTICE**

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| *Bachelor Level* |

1. A bank account has $10 dollars in it. What is the balance of the bank account after a purchase of $7 and a deposit of $8?
2. The temperature is predicted to increase by 15 degrees in the next two days, all across the country. Which city will end up with the highest temperature, assuming the predicted increase occurs?

|  |  |
| --- | --- |
| **City** | **Current Temperature** |
| Helena, Montana | -10 degrees |
| Boise, Idaho | 10 degrees |
| Ann Arbor, Michigan | 0 degrees |
| Anchorage, Alaska | -6 degrees |

1. Helena
2. Boise
3. Ann Arbor
4. Anchorage

|  |
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| *Master Level* |

1. Aaron is $16 in debt. He borrows $4 more dollars from his sister. He then earns $10 babysitting and pays off some of his debt. Which number sentence represents Aaron’s debt after earning $10?

a.) 16 – 4 – 10 = 2

b.) -16 + 4 + 10 = -2

c.) -16 + (-4) + (-10) = -30

d.) -16 + (-4) + 10 = 10

1. Ray spent a lot of money on his family this weekend: he bought a birthday present for his brother for $35, an anniversary present for his parents for $50, and a graduation gift for his cousin for $24. How much will Ray need to earn in order to bring his balance back to $0? Explain your answer.

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**INDEPENDENT PRACTICE**

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| *Bachelor Level* |

1. Dawn is typically the coldest part of the day in Chicago. On this day, the temperature was –15°F at 5:00 AM, just before sunrise. By 2:00 PM, the temperature had risen 13°F.

Step A: What is the temperature at 2:00 PM?

Step B: By 8:00 PM the temperature had fallen 9 degrees. What is the temperature at 8:00PM?

1. In a card game, Mandy starts with 15 points but loses 7 points after the next hand. In the final hand, she won an additional 9 points. What is Mandy’s final score?

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| *Master Level* |

1. A kid at the pool goes to the high diving board and climbs the stairs 3 feet and has to wait for the kid in front of him. He climbs up another 5 feet and then jumps into the pool descending 10 feet. How far does the kid need to swim up to reach the surface?
2. Write a word problem that does not use money that uses the integers 25, -15, and -45.

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1. Two football teams are playing each other in a game. Determine which team had the most total yards. The result of their first five plays are shown below:

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| --- | --- | --- |
|  | **Team A** | **Team B** |
| 1st Play | Gain of 10 yards | Loss of 4 yards |
| 2nd Play | Loss of 7 yards | Loss of 7 yards |
| 3rd Play | Loss of 6 yards | Gain of 17 yards |
| 4th Play | Gain of 14 yards | Loss of 2 yards  |
| 5th Play | Loss of 1 yard | Gain of 11 yards |

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| *PhD Level* |

1. Jorge is playing a game involving one die, labeled 1-6, with his brother. Here are the rules:

Even numbers have negative point values

Odd numbers have positive point values

For example: a two has a value of -2 because it is even, a three has a value of +3 because it is odd

Step A: If Jorge rolls a 4, 5, 4, 2, 3, 2 and his brother rolls a 6, 5, 5, 2, 1, 3, who wins the game?

Step B: Jorge says that you can’t roll the die three times to get a score of zero. Jorge’s brother disagrees and says that he can think of two different combinations to get zero. Who do you agree with? If you agree with Jorge, explain why you can’t get zero. If you agree with his brother, name the two combinations.

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1. The highest point on earth is the top of Mount Everest. It is 29,035 feet above sea level. To get to the lowest exposed land, the Dead Sea, you have to travel 30,345 feet down. How many feet above or below sea level is the Dead Sea?

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**EXIT TICKET**

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| Self-assessment | I mastered the learning objective today. | I am almost there.  | Need more practice and feedback. |
| Teacher feedback | You mastered the learning objective today. | You are almost there.  | You need more practice and feedback. |

1. In golf, a golfer is said to be shooting par when she puts a golf ball in the hole in a designated number of strokes. For example, for a golfer to shoot ‘par’ on a par 5, she must put the ball in the hole using only 5 strokes. If a golfer scores anything but a par, there are additional names for those scores:
	* Birdie: when a golfer puts the ball in the hole using one fewer than the designated number of strokes. A golfer who scores a birdie is said to be shooting one under par, or -1.
	* Eagle: when a golfer scores two strokes below par, or -2.
	* Bogie: when a golfer scores one more stroke than par, or + 1.
	* Double Bogie: when a golfer scores two more strokes than par, or + 2.

Jesse went golfing this weekend. On the first 16 holes, she had 2 eagles, 3 birdies, 5 pars, 3 bogies and 3 double bogies. What was her final score relative to par? Express your answer as an integer.