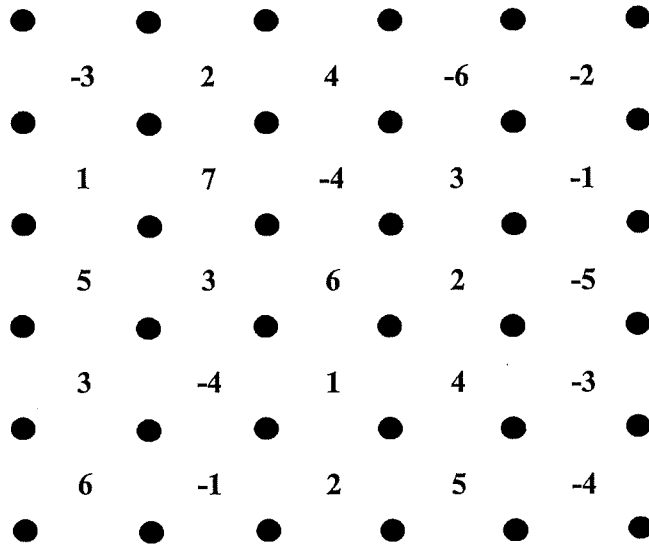


Planet	Temperature (°C)
Earth	20
Jupiter	-120
Mars	-20
Mercury	440
Neptune	-200
Saturn	-140
Uranus	-180
Venus	460

1.	Which two temperatures are opposites?	
2.	Order the temperatures from greatest to least.	
3.	Place the temperatures on a number line.	
4.	Find the difference in temperature between Venus and Earth.	
5.	Find the difference in temperature between Mercury and Saturn.	
6.	Find the difference in temperature between the warmest and coldest planets.	
7.	Find the difference in temperature between Mars and Uranus.	
8.	The sum of the temperatures of Earth and Neptune is the same as the temperature of which planet?	
9.	The sum of the temperatures of Jupiter and Mars is the same as the temperature of which planet?	
10.	The sum of the temperatures of Jupiter, Saturn, and Neptune has the same absolute value as the temperature of which planet?	
11.	What is the mean temperature on these planets?	

Directions: Players take turns joining any two dots next to each other. Diagonals are not allowed. When a player makes a square, the player's initials go in the box. When all the squares are completed, add up all the integers in your boxes. Then subtract this total from 25. The player with the highest score is the winner.

ROUND 1



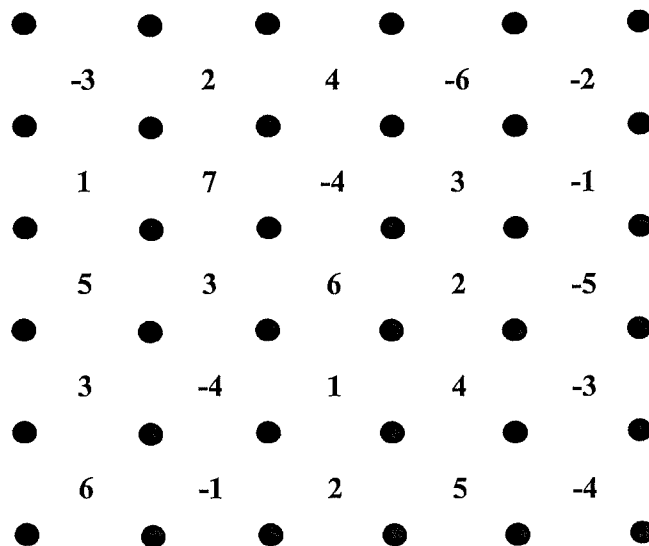
PLAYER 1: TOTAL OF ALL BOXES: _____

Now subtract this total from 25: $25 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$ (final score)

PLAYER 2: TOTAL OF ALL BOXES: _____

Now subtract this total from 25: $25 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$ (final score)

ROUND 2



Multiplying Integers Rules

Dividing Integers Rules

$$\oplus \times \oplus = \oplus$$

$$\ominus \times \ominus = \oplus$$

$$\oplus \times \ominus = \ominus$$

$$\ominus \times \oplus = \ominus$$

$$\oplus \div \oplus = \oplus$$

$$\ominus \div \ominus = \oplus$$

$$\oplus \div \ominus = \ominus$$

$$\ominus \div \oplus = \ominus$$

Solve each equation.

1.	$m = 2(-8)$		2.	$t = -3(-4)$		3.	$x = 8(-4)$	
4.	$p = (-5)(-5)$		5.	$r = (-12)(5)$		6.	$w = (-4)^2$	
7.	$e = -12(13)$		8.	$v = 14(-3)$		9.	$n = (-14) \bullet 5$	
10.	$h = (-12)^2$		11.	$d = -7 \bullet -8$		12.	$b = -9(10)$	

Evaluate each expression if $m = -6$, $n = 3$, and $p = -4$.

13.	$-4m$		14.	np		15.	$2mn$	
16.	$-2m^2$		17.	$-5np$		18.	$-10mp$	
19.	$-12np$		20.	mnp		21.	p^2	

Solve each equation.

22.	$f = -16 \div -4$		23.	$v = -100 \div 10$		24.	$m = -28 \div 7$	
25.	$g = 52 \div -4$		26.	$d = -125 \div -25$		27.	$q = -32 \div -16$	
28.	$e = -120 \div -12$		29.	$t = 45 \div -9$		30.	$p = 33 \div -3$	
31.	$z = -36 \div 12$		32.	$d = -200 \div -25$		33.	$c = -88 \div 11$	

Complete the table below using your knowledge of integers as well as noticing the pattern that the table creates.

					5				15		
					4				12		
					3	0	3	6	9	12	15
					2				6		
					1				3		
					0				0		
-5	-4	-3	-2	-1	x	0	1	2	3	4	5
					-1						
					-2						
					-3						
					-4						
					-5						

Five friends compete in two golf tournaments. Their overall scores for each tournament are listed in the tables below. What is the difference in the means (averages) of each tournament?

Durham Cup	
<i>Golfer</i>	<i>Score</i>
Mr. Mangham	-5
Mr. Underwood	-7
Mrs. Oliver	-12
Mrs. Atkins	+4
Mrs. Fauatea	Even (0)

Southlake Classic	
<i>Golfer</i>	<i>Score</i>
Mrs. Bailey	-14
Ms. Johnsen	-6
Mrs. Loewen	-18
Mrs. Shabanaj	+3
Mrs. Snow	Even (0)

Solve each equation.

1.	$x = -6 \cdot 8$		2.	$y = -12 \cdot 4$	
3.	$x = -9 \cdot (-11)$		4.	$y = (-7)(17)$	
5.	$14(-4) = h$		6.	$-15(10) = k$	
7.	$(10)(-8)(-2) = r$		8.	$(-3)(3)(-10) = t$	
9.	$w = (-12)(-1)(-6)$		10.	$y = (20)(-5)(-5)$	
11.	$x = (4)(-16)(-6)$		12.	$n = (16)(9)(-2)$	

Evaluate each expression if $x = -5$ and $y = -6$.

13.	$3y$		14.	$-8x$		15.	$-4y$		16.	$12x$	
17.	$-15x$		18.	$-19y$		19.	$-6xy$		20.	$4xy$	

Solve each equation.

21.	$x = \frac{-150}{-25}$		22.	$k = \frac{-98}{14}$		23.	$x = \frac{-312}{24}$	
24.	$\frac{-208}{-26} = t$		25.	$\frac{-180}{15} = n$		26.	$z = \frac{930}{-30}$	
27.	$\frac{-189}{-21} = p$		28.	$\frac{288}{-18} = d$		29.	$b = \frac{-396}{-36}$	

Evaluate each expression if $x = 8$ and $y = -12$.

30.	$x \div 2$		31.	$x \div (-4)$		32.	$36 \div y$		33.	$0 \div y$	
34.	$\frac{y}{-6}$		35.	$\frac{x}{4}$		36.	$\frac{-144}{y}$		37.	$\frac{-136}{x}$	

38.	At noon on Friday, the temperature was 0 degrees. Six hours later the temperature was -18 degrees. On average, what was the temperature change per hour?
39.	Mangham Architecture has monthly profits of \$1200, \$755, -\$450, \$210, and -\$640 over 5 months. What was the average profit for those months?
40.	On a separate sheet of paper, model the following expressions by drawing number lines. A. $4 \cdot (-2)$ B. $5 \cdot (-1)$ C. $3 \cdot -3$
41.	On a separate sheet of paper, model the following expressions by drawing two-color counters. A. $4 \cdot (-2)$ B. $5 \cdot (-1)$ C. $3 \cdot -3$

Activity 2-24: **Multiplying Integers**

Name: _____

The multiplication table below contains 42 mistakes. Shade in each box that contains a mistake. You will end up with a famous farming expression.

X	2	-4	-9	6	3	8	-1	4	-8	-2	-6	7	-5	9	-7
-3	6	-12	-27	-18	9	-24	-3	12	-24	6	-18	-21	-15	27	-21
9	-18	-36	-81	54	-27	72	9	36	-72	-18	54	63	45	81	63
-6	12	-24	54	-36	18	-48	-6	24	48	12	-36	-42	-30	-54	-42
5	-10	-20	-45	30	-15	40	5	20	-40	-10	30	35	25	45	35
-7	14	-28	-63	-42	21	-56	-7	28	-56	14	-42	-49	-35	63	-49

Flipping For Integers

The object of this game is to have the highest score at the end of the game. You may play in a group of 2 or a group of 3.

You need: your game card, a red/yellow chip, a single die

Rules: Each player takes turns flipping their chip and rolling their die. The chip represents whether your number is positive (yellow) or negative (red). For example, if you flip a red and roll a 4 your number is -4 . Place your number in **any of the ten rows** on your scoring sheet. After each player has had ten turns and all rows are filled in calculate your values and add them together to get your final score.

GAME 1		GAME 2	
$5 + \underline{\quad}$		$5 + \underline{\quad}$	
$7 - \underline{\quad}$		$7 - \underline{\quad}$	
$3 \bullet \underline{\quad}$		$3 \bullet \underline{\quad}$	
$-2 \bullet \underline{\quad}$		$-2 \bullet \underline{\quad}$	
$(\underline{\quad})^2$		$(\underline{\quad})^2$	
$6 - 2 \bullet \underline{\quad}$		$6 - 2 \bullet \underline{\quad}$	
$\underline{\quad} - 4 \bullet -1$		$\underline{\quad} - 4 \bullet -1$	
$8 - \underline{\quad} + 5$		$8 - \underline{\quad} + 5$	
$-4 \bullet \underline{\quad} \bullet -2$		$-4 \bullet \underline{\quad} \bullet -2$	
$6 - (\underline{\quad})^2$		$6 - (\underline{\quad})^2$	
TOTAL		TOTAL	

Finished? You can play **Integer War** with a deck of cards. Black cards are positive and red cards are negative. Each person flips a card over at the same time. The first person to state the sum of the two cards wins both of them. In the event of a tie, two additional cards are played until there is a winner.

$(-9)^2$ means the number -9 squared. This is equal to $+81$.

-9^2 means to solve for 9 squared and then find the opposite. This is equal to -81 .

Solve.

1.	$-9 + (-13)^2$	2.	$-2(-25)$	3.	$(-6 + 17) - 20$
4.	$2^2 \cdot 3^2$	5.	$2^2 \cdot 11^3$	6.	$(-5 - -6)^2 \cdot -87$
7.	$32 + -37$	8.	$(-15 \div 3) + 14$	9.	$(-13 \cdot 2) + (-12)^2$
10.	$(-10 + -5)(-2)^2$	11.	$(-3 - 4)^2 \div 7$	12.	$(-5 - -30)(3)$
13.	$(-9 \cdot 6) + -4$	14.	$(-30 - -22) \cdot 6$	15.	$(-8 \cdot -8) - 8^2$
16.	$(-13 + -12)(-4)$	17.	$\frac{(4 \cdot -6)}{-8^2}$	18.	$\frac{(-64 \div 2)}{-2}$
19.	2^5	20.	4^3	21.	$(-40 + -50) \div 9$
22.	$-9^2 - (-19)$	23.	$-7 \cdot (-11)^2$	24.	$(42 \div -7) - 6$
25.	$(-7)^2 + -11$	26.	$-60^2 \div -5$	29.	$(-12 + -18) \div -15$

30.	$3^3 \cdot (-5)^2$	31.	$2^2 \cdot 3^3$	32.	$2^3 \cdot 5^2 \cdot 7^1$
33.	$(-7)^2 + 2 \cdot 3^2$	34.	-14^2	35.	$-11^2 - (-13)^2$
36.	$(-6)^2 + (-2)^2$	37.	$5^2 \cdot 7^3$	38.	$2^4 - 3^3$
39.	$2^3 \cdot 3^2$	40.	$1^3 + (-1)^4 - 2^5$	41.	$2^2 \cdot 3^3 - 2^3 \cdot 3^2$
42.	$3 + 2^4 + (5 - 2)^3$	43.	$2^5 - 5^3$	44.	$3^4 \cdot 5^2 + 2^3 \cdot 3^2$

45.	I am an integer. When you add -1 to me, the sum is the opposite of the difference when you subtract -5 from me. What integer am I?	
46.	Find two integers having a product of negative 15 and a sum of positive 2.	
47.	Find two integers having a product of negative 30 and a sum of negative 1.	
48.	Find two integers having a product of positive 27 and a sum of negative 12.	
49.	Find two integers having a product of negative 64 and a sum of positive 12.	
50.	Find two integers having a product of positive 40 and a sum of negative 13.	
51.	Which is larger, n or $2n$? Why?	