

For full credit, show all work on a separate sheet of paper.

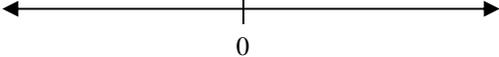
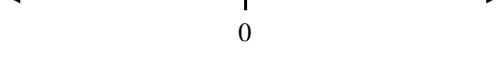
Use your knowledge of positive and negative chips to answer the following problems.



1.	<p>Which expression is represented by the chips below?</p> <div style="text-align: center; border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> </div> <p>A $2 + 4$ B $-2 + 4$ C $2 + -4$ D $-2 + -4$</p>	2.	<p>Mr. Wright is trying to represent the following equation with chips: $f = 3 + -6$</p> <div style="text-align: center; margin: 10px auto;"> </div> <p>If he has started above what should his next step be?</p> <p>A Add 6 more positive chips. B Add 6 negative chips. C Remove all of his positive chips. D Circle the zero pairs in his picture.</p>
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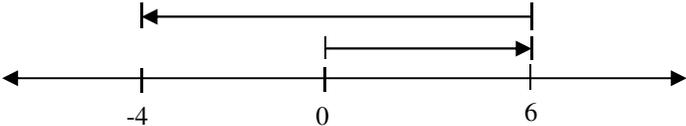
3.	<p style="text-align: center;">$w = -7 - -2$</p> <p>If Mr. Mangham wants to model this equation with chips which method would be best?</p> <p>A Place 7 negative chips and then take away 2 negative chips. B Place 7 negative chips and then add in 2 more negative chips. C Place 7 negative chips and then take away 2 positive chips. D Place 7 positive chips and then take away 2 negative chips.</p>	
4.	<p style="text-align: center;">$d = 1 - 5$</p> <div style="text-align: center; margin: 10px auto;"> </div> <p>Mr. Underwood has set up the equation above using positive and negative chips. What should be his next step?</p> <p>A Remove the 4 negative chips. B Add in 5 more positive chips. C Remove the 5 positive chips. D Remove the 4 zero pairs.</p>	

Use the number lines to answer to following problems.

5.	$f = -2 + -5$ 	6.	$d = 4 - -4$ 
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Solve.

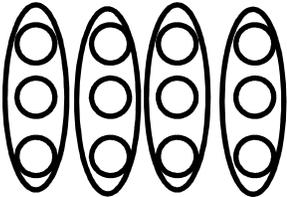
7.	$g = -64 + 18 + 7$		8.	$ 23 - (-4) - 6 $	
9.	$12(-8)^2 = w$		10.	$23 \cdot -4 \cdot (-2)^2$	
11.	$-15 \div -3 \cdot 4$		12.	$d = (-16 + -5)^2$	
13.	$ -19 + \sqrt{16} = t$		14.	$-16 - (-5)^2$	

15.	<p>Which of the following is always true?</p> <p>A The sum of two negative numbers is negative. B The difference of two negative numbers is negative. C The absolute value of a number is greater than its opposite. D An integer is greater than its absolute value.</p>	
16.	<p>a is a negative integer. If you subtract a negative number from a what will be true comparing the difference to a?</p> <p>A The difference will be always be less than a. B The difference will be always be greater than a. C The difference will always be negative. D The difference will always be positive.</p>	
17.	<p>Which expression is represented by the model below?</p>  <p>A $6 + -4$ B $6 - (-4)$ C $-4 - 10$ D $6 - 10$</p>	

18.	<p>If x and y are integers and $x < y$, how do the opposite of x and the opposite of y compare?</p> <p>A The opposite of x is less than the opposite of y. B The opposite of x is greater than the opposite of y. C The opposite of x is equal to the opposite of y. D More information is needed to compare the opposites.</p>									
19.	<p style="text-align: center;">Martina's Inequalities</p> <table border="1" style="margin: auto;"> <tr> <td>$-2 < 3$</td> <td>$2 < 3$</td> <td>$2 < -3$</td> <td>$-4 < -5$</td> </tr> <tr> <td>$-4 < 3$</td> <td>$1 < 0$</td> <td>$0 < -1$</td> <td>$-3 < -2$</td> </tr> </table> <p>Martina gets one point for each pair of integers she correctly compares. She wrote the statements above. How many points did Martina receive?</p> <p>A 2 B 3 C 4 D 5</p>	$-2 < 3$	$2 < 3$	$2 < -3$	$-4 < -5$	$-4 < 3$	$1 < 0$	$0 < -1$	$-3 < -2$	
$-2 < 3$	$2 < 3$	$2 < -3$	$-4 < -5$							
$-4 < 3$	$1 < 0$	$0 < -1$	$-3 < -2$							

20.	What is the opposite of -5 ?	
21.	Tamar wants to select an integer that is closer to zero than -3 on the number line. How many possible choices does she have?	
22.	<p>The opposite of x is y. What is the distance between x and y on the number line?</p> <p>A $x + y$ B $x \cdot y$ C $2x$ D $2x - 2y$</p>	
23.	Kevin listed all of the integers with absolute value less than 2. Bria listed all of the integers with absolute value less than 4. How many more integers are on Bria's list than on Kevin's list?	
24.	<p>The absolute value of a number is added to the original number. Kayla says the sum is always equal to 0. Is she correct?</p> <p>A Yes, because the positives will always cancel out the negatives. B Yes, because the absolute value of the number will always be positive. C No, because two numbers added together will always be negative. D No, because the original number and the absolute value could both be positive.</p>	
25.	<p>Which expression has the same value as $-5 - (-9)$?</p> <p>A $(-4)(-1)(0)$ C $24 \div -6$ B $-2 - (-8)$ D $8 + (-4)$</p>	

26.	<p>Tyler wrote checks on his checking account for \$20, \$20, \$18, \$20, and \$35. He also deposited \$53 in the account. Which number describes the change in the balance of his account?</p> <p>A $-\\$113$ B $-\\$60$ C $\\$60$ D $\\$83$</p>																
27.	<p>Which of the following expressions has the greatest value?</p> <p>A $-3 + -4 - (-2)$ C $-3 + -4 - 2$ B $-3 - (-4) - (-2)$ D $-3 - (-4) - 2$</p>																
28.	<p>A submarine's elevation is -14 feet relative to sea level. A shark is swimming at an elevation of -56 feet. What is the difference in elevation between the submarine and the shark?</p> <p>A 42 ft B 56 ft C 60 ft D 70 ft</p>																
29.	<p style="text-align: center;">Temperature in Four Cities</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>City</th> <th>Temperature on Day 1 ($^{\circ}\text{C}$)</th> <th>Temperature on Day 2 ($^{\circ}\text{C}$)</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>-5°</td> <td>-1°</td> </tr> <tr> <td>B</td> <td>-12°</td> <td>-8°</td> </tr> <tr> <td>C</td> <td>-11°</td> <td>-2°</td> </tr> <tr> <td>D</td> <td>-3°</td> <td>5°</td> </tr> </tbody> </table> <p>A meteorologist recorded the temperature in four cities on two days last year, as shown in the table above. Which city had the greatest increase in temperature between the two days?</p>	City	Temperature on Day 1 ($^{\circ}\text{C}$)	Temperature on Day 2 ($^{\circ}\text{C}$)	A	-5°	-1°	B	-12°	-8°	C	-11°	-2°	D	-3°	5°	
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D	-3°	5°															
30.	<p>How does the product of two negative factors compare to the original factors?</p> <p>A The product is less than the factors. B The product will be equal to one factor. C The product will be greater than or equal to one factor. D The product will be greater than the factors.</p>																
31.	<p>The table below shows the activity in a checking account over 3 days.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Day</th> <th>Deposit</th> <th>Withdrawal</th> </tr> </thead> <tbody> <tr> <td>Day 1</td> <td>\$128</td> <td>\$19</td> </tr> <tr> <td>Day 2</td> <td>\$0</td> <td>\$30</td> </tr> <tr> <td>Day 3</td> <td>\$60</td> <td>\$0</td> </tr> </tbody> </table> <p>If the beginning balance of the account was b, which expression represents the balance after the 3 days?</p> <p>A $b + 128 + (-19) + 30 + (-60)$ B $b + (-128) + 19 + (-30) + 60$ C $b + 128 + (-19) + 30 + 60$ D $b + 128 + (-19) + (-30) + 60$</p>	Day	Deposit	Withdrawal	Day 1	\$128	\$19	Day 2	\$0	\$30	Day 3	\$60	\$0				
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32.	<p>In the model below the counters represent negative integers.</p>  <p>Which expression is represented by the model?</p> <p>A $12 \div 3$ C $-12 \cdot -4$ B $-12 \div 4$ D $-12 \div -4$</p>	
33.	<p>Over a 12-hour period from 8 P.M. to 8 A.M., the temperature fell at a steady rate from 8°F to -16°F. If the temperature fell at the same rate every hour, what was the temperature at 4 A.M.?</p>	

Solve the following equations.

34.	$(-3)^2 - -6 + (4 \cdot -6)$		35.	$-70 + 80 - -90 + 100 - 20$	
36.	$4 - 3 - 2 - 1$				

Evaluate each expression if $x = -8$, $y = 3$, and $z = -7$.

37.	$\frac{-16yz}{x}$		38.	$ 10 - xyz $	
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39.	<p>A human red blood cell is about 0.000008 meter in diameter. Which of the following represents this number in scientific notation?</p> <p>A $0.8 \cdot 10^{-6}$ C $8.0 \cdot 10^{-6}$ B $0.8 \cdot 10^6$ D $8.0 \cdot 10^6$</p>	
40.	<p>Write $(6.2 \cdot 10^6)(2.1 \cdot 10^3)$ in scientific notation.</p> <p>A $1.32 \cdot 10^{10}$ C $0.1302 \cdot 10^{11}$ B $13.02 \cdot 10^9$ D $1.302 \cdot 10^{10}$</p>	
41.	<p>Write $\frac{(7.5 \cdot 10^8)}{(2.5 \cdot 10^2)}$ in scientific notation.</p>	
42.	<p>A small organism with a length of $7.5 \cdot 10^{-6}$ meters tripled in size. Write the new length in scientific notation.</p>	

Date	Highest Temperature (F)	Lowest Temperature (F)
12/25	84 at Kahului, Hawaii	-39 at Embarrass, Minn.
12/26	86 at Hilo, Hawaii and Fort Myers, Fla.	-36 at Northway, Alaska and Embarrass, Minn.
12/27	86 at Ford Myers, Fla.	-41 at Northway, Alaska
12/28	85 at Fort Myers, Fla., and McAllen, Texas	-45 at Northway, Alaska
12/29	85 at Corpus Christi, Texas	-33 at Havre, Mont.
12/30	86 at Fort Myers, Fla.	-38 at Fort Yukon, Alaska
12/31	83 at McAllen, Texas	-37 at Fairbanks, Alaska

Write the **correct expression** using integers and **solve each problem**.

		<i>Expression</i>	<i>Answer</i>
43.	What was the difference in the extreme temperatures on December 29 th ?		
44.	What was the difference in low temperatures in Northway, Alaska on December 27 th and 28 th ?		
45.	In Antarctica on December 25 th it was two times the lowest temperature in Embarrass, Minnesota. What was the temperature in Antarctica on December 25 th ?		
46.	To get the temperature in Dallas on December 31 st , you need to add the highest and lowest temperatures on that date. What was the temperature in Dallas on December 31 st ?		
47.	The high temperature in Northway, Alaska on December 26 th was 14 degrees above the lowest temperature. What was the high in Northway, Alaska on December 26 th ?		

48.	A distance of $6.5 \cdot 10^{-8}$ is multiplied by 10. The result is written in scientific notation. What is the new exponent?	
49.	What is the standard notation for a distance of 9.302×10^7 miles?	
50.	One type of ant is 0.0035 meters long. What is this length in scientific notation?	