Name		Date	Class			
TEKS 2A.2.A	_					
LESSON Practice	s with Comple	y Numbers				
Graph each complex number	-	Imaginary axis				
<b>1.</b> -6		10 ¥				
<b>2.</b> 4 <i>i</i>		6				
<b>3.</b> 6 +7 <i>i</i>		4	<u>.</u>			
<b>4.</b> -8 - 5 <i>i</i>	-10 -8 -6	-4 -2 0 2 4 6 8	→ x 10 10			
<b>5.</b> –3 <i>i</i>		-2	СС			
Find each absolute value.		-6				
<b>6.</b>  4 + 2 <i>i</i>	<b>7.</b>  5 – <i>i</i>	_ <sub>10</sub> ♥ 8.	-3 <i>i</i>			
<b>Add or subtract. Write the res</b> <b>9.</b> $(-1 + 2i) + (6 - 9i)$			(-5+2i) + (-2+8i)			
Multiply. Write the result in the form $a + bi$ .						
<b>12.</b> 3 <i>i</i> (2 – 3 <i>i</i> )	<b>13.</b> $(4 + 5i)(2 + i)$	<i>i</i> ) <b>14.</b>	(-1 + 6i)(3 - 2i)			
Simplify.						
<b>15.</b> $\frac{2+4i}{3i}$	<b>16.</b> $\frac{3+2i}{4+i}$	17.	2 <i>i</i> <sup>11</sup>			

## Solve.

**18.** In electronics, the total resistance to the flow of electricity in a circuit is called the impedance, *Z*. Impedance is represented by a complex number. The total impedance in a series circuit is the sum of individual impedances. The impedance in one part of a circuit is  $Z_1 = 3 + 4i$ . In another part of a circuit, the impedance is  $Z_1 = 5 - 2i$ . What is the total impedance of the circuit?

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0. 0/	-46-					
Find each absolute value.						
<b>6.</b>  4 + 2 <i>i</i>	<b>7.</b>  5 - <i>i</i>	<b>8.</b>  -3 <i>i</i>				
$2\sqrt{5}$	$\sqrt{26}$		3			
	i					
Add or subtract. Write the result in the form $a + bi$ .						
<b>9.</b> $(-1 + 2i) + (6 - 9i)$	<b>10.</b> $(3 - 3i) - (4 + 7i)$	<b>11.</b> $(-5 + 2i)$	) + (-2 + 8i)			
5 — 7 <i>i</i>	-1 - 10 <i>i</i>		7 + 10 <i>i</i>			
Multiply. Write the result in the	e form <i>a</i> + <i>bi</i> .					
<b>12.</b> 3 <i>i</i> (2 – 3 <i>i</i> )	<b>13.</b> $(4 + 5i)(2 + i)$	<b>14.</b> (-1 + 6 <i>i</i>	)( <b>3</b> – 2 <i>i</i> )			
9 + 6 <i>i</i>	3 + 14 <i>i</i>	g	) + 20 <i>i</i>			
Simplify.						
<b>15.</b> $\frac{2+4i}{3i}$	<b>16.</b> $\frac{3+2i}{4+i}$	<b>17.</b> 2 <i>i</i> <sup>11</sup>				
$\frac{4}{3} - \frac{2}{3}i$	$\frac{14}{17} + \frac{5}{17}i$		-2 <i>i</i>			
Solve.						
<b>18.</b> In electronics, the total resis	stance to the flow of electri	city in a circuit is call	ed			

**18.** In electronics, the total resistance to the flow of electricity in a circuit is called the impedance, *Z*. Impedance is represented by a complex number. The total impedance in a series circuit is the sum of individual impedances. The impedance in one part of a circuit is  $Z_1 = 3 + 4i$ . In another part of a circuit, the impedance is  $Z_1 = 5 - 2i$ . What is the total impedance of the circuit?

8 + 2*i*