

CSCI 341: Computer Organization
WS 2: Floating Point Numbers

1	<p>Given a 32 bit register, show where each part of a floating point number will be. Fill out the table below.</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>3</td><td>3</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>2</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td> </tr> <tr> <td>1</td><td>0</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>	3	3	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1	9	8	7	6	5	4	3	2	1	0	1	0	9	8	7	6	5	4	3	2	1	0	9	8	7	6	5	4	3	2	1	0																																								
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2	<p>Write down the formula for converting a binary floating point number to decimal.</p>																																																																																													
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4	<p>Convert the following floating point numbers to decimal</p> <ol style="list-style-type: none"> 1. 1001 0010 0100 1000 0000 0000 0000 0000 2. 0111 1011 0100 1000 0000 0000 0000 0000 																																																																																													
5	<p>Convert the following floating point numbers to decimal. Show enough decimal places for the numbers to be distinguishable.</p> <ol style="list-style-type: none"> 1. 1000 0000 0100 1000 0000 0000 0000 0000 2. 0000 0000 0100 1000 0000 0000 0000 0001 																																																																																													