

**Remember there is no penalty for guessing on the free response section. Do not leave any blank!**

Questions	Show work here!
<p>9. A total of 1000 pounds of candy is packaged into boxes, with each box containing <math>\frac{1}{2}</math> pound of candy. If each box sells for \$2.00, what is the total selling price, in dollars, for all the boxes? (Disregard the \$ sign when gridding your answer.)</p>	

<p>10. If <math>\frac{x+2}{10} = 40</math> and <math>\frac{y+x}{20} = 40</math>, what is the value of <math>y</math>?</p>	
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Questions	Show work here!!!												
<p>11. The table to the right shows the attendance at a health club's aerobics classes on Monday last week. The average (arithmetic mean) class attendance last Monday was 21. If the attendance at the 6:00 A.M. class next Monday increases by 5 and the attendance at the other classes remains the same, what will be the average attendance at next Mondays classes?</p>	<div style="text-align: center;"> <p>ATTENDANCE AT LAST MONDAY'S AEROBICS CLASSES</p> <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="padding: 5px;">Class Time (A.M.)</th> <th style="padding: 5px;">Attendance</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">6:00</td> <td style="padding: 5px;">14</td> </tr> <tr> <td style="padding: 5px;">7:30</td> <td style="padding: 5px;">20</td> </tr> <tr> <td style="padding: 5px;">9:00</td> <td style="padding: 5px;">23</td> </tr> <tr> <td style="padding: 5px;">10:30</td> <td style="padding: 5px;">20</td> </tr> <tr> <td style="padding: 5px;">11:30</td> <td style="padding: 5px;">28</td> </tr> </tbody> </table> </div> <div style="text-align: center; margin-top: 10px;"> </div>	Class Time (A.M.)	Attendance	6:00	14	7:30	20	9:00	23	10:30	20	11:30	28
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6:00	14												
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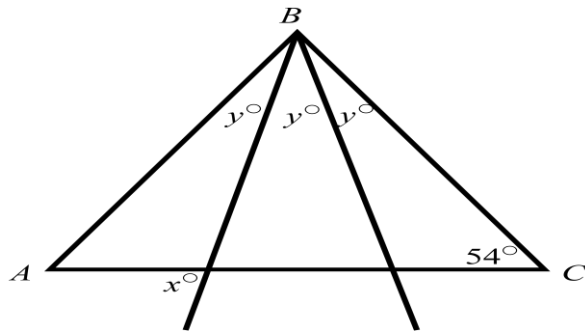
12. In the figure above,  $ABCD$  is a rectangle with  $BC = 2AB$ .  $\overline{AB}$  and  $\overline{CD}$  are diameters of semicircles  $AEB$  and  $CFD$ . What is the area of the shaded region, in square centimeters?

/	/		
•	•	•	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

13. In the  $xy$ -plane, the graph of  $y = k(x-1)^2$ ,

where  $k$  is a constant, passes through the point  $(3,10)$ . What is the value of  $k$ ?

/	/		
•	•	•	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

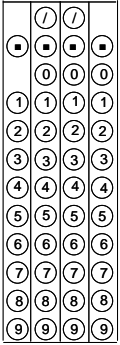
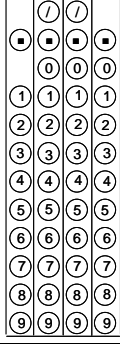
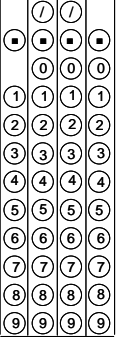


14. In triangle  $ABC$  above,  $AB = BC$ . What is the value of  $x$ ?

/	/		
•	•	•	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

15. Carol has 5 scarves and 5 sweaters, and each scarf matches a different sweater. If she chooses one of these scarves and one of these sweaters at random, what is the probability that they will not match?

/	/		
•	•	•	•
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

<p style="text-align: center;"><math>3^{6x} = 81a^2</math></p> <p>16. In the equation above, <math>x</math> is a positive integer and <math>a &gt; 0</math>. If <math>27^x = ka</math>, what is the value of <math>k</math>?</p>	
<p>17. If <math>-1 &lt; 2y &lt; 0</math>, what is one possible value of <math> y  - y</math>?</p>	
<p>18. The integer <math>n</math> is equal to <math>k^2</math> for some integer <math>k</math>. If <math>n</math> is divisible by 24 and by 10, what is the smallest possible positive value of <math>n</math>?</p>	

Answers 😊 Good Luck

Question Number	9	10	11	12	13	14	15	16	17	18
Correct Answer	4000	402	22	72	$\frac{5}{2}$ or 2.5	78	$\frac{4}{5}$ or .8	9	$0 < x < 1$	3600
Type of Question	N	A	D	G	A	G	D	A	A	N
Difficulty Level	2	2	1	3	3	3	4	4	3	5

N:Numbers & Operations A:Algebra & Functions G:Geometry & Measurement D:Data Analysis, Stats, & Prob.