



Bubble in your answers on the answer sheet. Be sure to erase all mistakes completely. You do not need to bubble in leading zeros – the answer of “7” does not need to be answered as “007”. If your answer is a fraction like $\frac{3}{16}$, bubble in 316.

1. **2 points:** If $\square x = 3 - 2x$ and $\triangle x = 6x^2$, what is the value of the expression $\triangle \square - \square \triangle$?

2. **2 points:** Suppose you and your sister have cell phone plans A and B, respectively. Plan A costs \$80 each month plus \$0.10 for each text message *used*. Plan B costs \$40 per month plus \$0.25 for each text message *used*. *If you and your sister use the same number of text messages, what is the least number of text messages your sister would need to use for her plan to be more expensive than yours?*

3. **2 points:** Consider the following school schedule:

8:30	School Begins
8:30-10:00	Math Workshop
10:00-10:15	Recess
10:15-11:30	Reading Workshop
11:30-12:15	Recess/Lunch
12:15-1:45	Science/Social Studies Workshop
1:45-2:30	Physical Education (PE)
2:30	School Ends

What percentage of the school day was spent either in an academic workshop or in PE? **Express your answer to the nearest whole percent.**

4. **3 points:** During one of his longer work days, Larry spent the first $\frac{1}{3}$ of the work day fixing computer issues. Then, he took a 15 minute break. After spending another $\frac{1}{4}$ of the work day creating a new computer program, he took a half-hour break. He spent the next $\frac{1}{12}$ of the work day fixing even more computer issues, but then proceeded to fall asleep for the remaining 45 minutes from complete exhaustion. How many hours long was Larry’s work day? **Express your answer as a decimal.**
5. **3 points:** Before the marathon, your friend timed you on a few short runs, finding that your average distance ran in 15 seconds was exactly 1320 inches. If you happened to follow that same pace, on average, for the first hour of the marathon, how many miles will you have run?
6. **3 points:** What is the y -coordinate of the point where the lines $y = 3x + 27$ and $3y = -18x - 27$ intersect?



Washington State
Math Championship

ConocoPhillips
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Algebra – 7th Grade

7. **3 points:** By selling a tuxedo for \$480, Mr. Mathman made 25% more money than he would have made by selling it for \$400. How much money, in dollars, did he originally pay for the tuxedo?
8. **4 points:** Mandy has some candies, but refuses to tell anyone how many pieces she has. There are three clues she will give: if she were to divide her pieces into four equal piles, she would have one extra; if she divides her pieces into five equal piles, she would have two extras; and if she divides them into six equal piles, she would have three extras. What is the fewest number of pieces of candy that she could have?
9. **4 points:** Find the sum of the value(s) of x that satisfy the following equation.

$$(x - 4)(x - 2) = 1$$

10. **4 points:** A college grade point average is often determined by taking the sum of your “quality points” and dividing by the number of credits taken. Quality points are determined by multiplying the number of credits a class is by the numerical equivalent of the grade for that class (A=4, B=3, C=2, D=1). For example, if you earned an A in a 3-credit class, you would receive 12 quality points. Use the report card below to determine this person’s GPA for this quarter. **Express your answer to the nearest hundredth.**

Awesomeness 101 (3 credits)	D
Einstein’s Mathematics (4)	A
Dodgeball (1)	B
How to Sharpen Pencils (2)	B
Intro to Addition (5)	C