**Part 1: Multiple Choice (4 points each)**

**Choose the best answer.**

1. **Brandy’s parents just bought her a car for her 17th birthday, she decides to head to Quik Trip and fill up her tank. She fills her 15.4 gallon tank up. If gas costs $2.19, how much money did she spend?**
2. $33.726
3. $33.73
4. $33.70
5. $34
6. **What is the best unit to use to measure the distance from your desk to the door?**
7. feet
8. miles
9. inches
10. miles per hour
11. **John is training for the State Fair’s Hamburger Eating Contest. He can eat 17 hamburgers in an hour. He has 435 hamburgers left. How many days will it take him to finish? Use dimensional analysis.**
12. 408 days
13. 18.13 days
14. 0.04 days
15. 1.07 days
16. **How many terms are there in the simplified form of the expression** $5x^{2}+4x^{2}-x+8?$
17. 1
18. 2
19. 3
20. 4
21. **In the equation y = -5.2x + 7, what is the coefficient?**
22. 5.2x
23. 7
24. 5.2
25. -5.2
26. **What is the expression for “5 less than the product of 6 and the square of a number.”**
27. 5 – 6n2
28. 6n2 – 5
29. (6n)2 – 5
30. 6– 5n
31. **The product of a rational and an irrational number is …**
32. Always rational
33. Always irrational
34. Sometimes rational and sometimes irrational
35. Sometimes prime and sometimes composite

**Part 2: Short constructed response (4 points each)**

**Answer each of the following questions. Show work and circle final answer.**

***Simplify the expressions below into their most simplified form. Show ALL work.***

|  |  |
| --- | --- |
| 8. $\sqrt{225x^{4}}$ | 9. $\sqrt{44x^{3}y^{5}}$ |
| 10. $2y^{3}\sqrt{24x^{2}y}$ | 11. $\sqrt{12x^{3}}∙\sqrt{24x^{2}}$ |
| 12. $3\sqrt{5x}∙6x\sqrt{20x}$ | 13. $3\sqrt{75}-4\sqrt{8}+6\sqrt{27}$ |
| 14. $6x-4x^{2}-10x-4+8$ | 15. $\left(15x^{2}-2x\right)-(6x^{2}-8+2x)$ |
| 16. $-3x(2x-4)$ | 17. $(2x+5)(7x-1)$ |

***18. Convert 1352 kg to mg.***

***19. Convert 52 miles to inches.***

***20. Convert 678 kilograms to ounces. (Use 1 kg = 2.2 lbs)***

***21. Convert 50 miles per hour to kilometers per second. (Use 5 km = 3.1 miles)***

***22. Use the expression*** $(-9x^{3}-7x^{2}+10x-4)$ ***to identify the terms, coefficients, constants, and factors.***

**Terms: Constants:**

**Coefficients: Factors:**

***24. Find the perimeter of the figure below.***



***25. Write a polynomial expression that represents the area of the park?***

