Tone-Up Tuesday #8 Name: _____

Due Date: 5/12/15 **Probs per night:** 7

Adding and Subtracting Polynomials (write your answer in standard form)

1. $(-6+14n+7n^4)+(-10+12n^4-9n)$	2. $(-12n^3+9n^4+8)-(7+6n^4+10n^3)$
3. $(-12m-8m^2+6m^3)+(-2m+3-10m^2)$	4. $(1+6x^3-6x^4)-(-13x^3+4+5x^4)$
5. $(11a^3-7a^4+3a)+(-14a^3-3-2a^4)$	6. $(-2x^3+3x^4+9x)-(2x+11-11x^3)$

Multiplying Polynomials (write your answer in standard form)

1. $\frac{3}{2}\left(\frac{29}{7}p-\frac{7}{8}\right)$	2. $\frac{24x}{5}\left(\frac{4}{3}x-\frac{5}{3}\right)$
3. $(7n-3)(-7n+3)$	4. $(2m-6)(m-1)$
5. $(6m+2n)(-m-7n)$	6. $(-6x-y)(8x+6y)$
7. $(-2v+4)(7v^2-8v+7)$	8. $(-7x+1)(6x^2+5x+7)$
9. $(3x+4y)(3x-4y)$	10. $\left(2n+\frac{25}{6}\right)\left(2n-\frac{25}{6}\right)$
11. $(2u-4v)^2$	12. $\left(\frac{5}{7}+\frac{7}{3}x\right)^2$

Factoring Polynomials

1. $y^2 + 3y - 4$	2. $w^2 + 13w + 22$
3. $n^2 + 16n - 57$	4. $x^2 + 17x + 66$
5. $t^2 - 41t - 86$	6. $z^2 - 14z + 45$
7. $12b^2 - 17b - 99$	8. $2n^2 + 63n + 145$
9. $18d^2 - 54d + 28$	10. $18b^2 - 89b + 36$
11. $49x^2 - 64$	12. $121 - 9x^2$
13. $4m^2 + 20m + 25$	14. $72 - 50y^2$
15. $9y^2 + 42y + 49$	16. $3n^2 - 36n + 108$
17. $3x^3 + 12x^2$	18. $8x^3 + 4x^2 - 2x$
19. $2x^3 - 6x^2 + 4x$	20. $48x^3 - 75x$

Simplify Rational Expressions

A rational expression is a fraction in which the numerator and the denominator are polynomials and the denominator is not equal to zero.

1. $\frac{14x^2}{50x^4}$	2. $\frac{3x^2 - 18x}{-9x^2}$
3. $\frac{2x + x^2}{x + 2}$	4. $\frac{x - 5}{x^2 - 8x + 15}$
5. $\frac{2x^2 + 11x - 6}{x + 6}$	6. $\frac{x^2 + x - 20}{x^2 + 2x - 15}$
7. $\frac{x^3 + 9x^2 + 14x}{x^2 - 4}$	8. $\frac{x^3 - x}{x^3 + 5x^2 - 6x}$

CONSRUCTION A contractor is building a porch along two sides of a house. The house is rectangular with a width of 32 feet and a length of 50 feet. The porch will have the same width on each side of the house.

a. Write a simplified polynomial that represents the combined area of the first floor of the house and the porch.

ERROR CHECK Samantha is taking a test in Algebra 1. She needs to get an A to reach her goal for the quarter. Below is one of her questions where she made a mistake. Find Samantha's mistake and help her solve it correctly, so she can reach her goal for the quarter.

A.

$$(5x^2 + 2x - 9) - (2x^2 - 3x + 7)$$

Step 1: $5x^2 + 2x - 9 - 2x^2 - 3x + 7$

Step 2: $5x^2 - 2x^2 + 2x - 3x - 9 + 7$

Answer: $3x^2 - x - 2$

What step did Samantha get wrong? Rewrite the incorrect step.

Correction: _____

B. Now that you have corrected Samantha's error, finish the problem so that you get the correct answer to the test problem.

Answer: _____