Unit 4 Homefun Assignments

All work must be shown on a separate sheet of paper

Homefun Day 1:

Factor or solve the following quadratics. (Be careful!!! Only solve if there is an = sign.)

1) $36x-54$ **2)** $12y^2-18y+6$ **3)** $16y^3+24y^2-48y$

4) $28x^3y^4+14xy^2$ **5)** $6x^2+12x=0$ **6)** $9a^2-9a=0$

7) $x^2=3x$ **8)** $3a^2+5a=2a$ **9)** $4x^2-8x+3x-6$

10) $5a^2-10ab+ab-2b^2$ **11)** $15ab+5b^2-15a-2b$ **12)** $18m^2+7m=3m$

Homefun Day 2:

Factor or solve the following quadratics. (Be careful!!! Only solve if there is an = sign.)

1) $2r^2-12r+10$ **2)** $6c^2+7c+2$ **3)** $8r^2-6r-5=0$

4) $7c^2-15c+2=0$ **5)** $3x^2+7x-20=0$ **6)** $3p^2-12p-63$

7) $12x^2-56x-20=0$ **8)** $2x^2+4x-30=0$ **9)** $z^2+13z+12=5z-4$

10) $0=2y^2+3y-35$ **11)** $45x^2-5x$ **12)** $x^2-10x-24=0$

Homefun Day 3:

Factor or solve the following quadratics. (Be careful!!! Only solve if there is an = sign.)

1) $z^2-14z+40$ **2)** $y^2-5y-24$ **3)** $a^2+13a+36$

4) $m^2+8m-65$ **5)** $z^2+16z+64$ **6)** z^2-36

7) x^2+6x+5 **8)** $x^2+11x+24=0$ **9)** $n^2-5n=14$

10) $x^2-6x=0$ **11)** $2n^2+12n+16=0$ **12)** $5z^2+60z$

Homefun Day 4 Factoring Review:

Factor or solve the following problems. Watch for the problems that are equations!!!!!!!

1. $8y^2+24y$
2. $-4x^4-9x^2$
3. $5a^2=10a$
4. $x^2-13x+36$
5. $6x^2y^4z^9-27x^3y^3z^5$
6. $y^2+12y-28=0$
7. $3a^2+a-14$
8. $8m^2-18m+7$
9. $6y^2+11y-2=0$
10. $4x^2-12x+9=0$
11. $81y^2-49$
12. $p^2-144=0$
13. $-x^2+8x+48$
14. $y^2=64$
15. $3m^2+12m-36$
16. y^2+y-30
17. $4b^2-20b=0$
18. $2x^3+26x^2=96x$
19. $-8a^4-64a^3$
20. $x^2-14x+48=0$
21. $x^2-18xy+45y^2$
22. $4y^2-81$
23. $4y^2=12y+7$
24. $3c^2-18c+15$
25. $w^2=8w$
26. $mn-4m+3n-12$
27. $18y^2-8$

Homefun Day 5:

Solve the following using square roots.

1) $3x^2 = 108$ **2)** $-3x^2 + 8 = 56$ **3)** $4x^2 + 3 = 47$

4) $(x+2)^2 = -25$ **5)** $3x^2 - 12 = 12$ **6)** $(x+1)^2 + 14 = 5$

7) $9x^2 - 12 = 4$ **8)** $-4(x+2)^2 - 8 = 0$ **9)** $\frac{(3x-3)^2}{5} - 20 = 0$

10) $4(2x+1)^2 + 64 = 0$ **11)** $\frac{(4x-1)^2}{2} + 3 = -7$ **12)** $\frac{(x-3)^3}{3} - 9 = 0$

Homefun Day 6:

Solve the following quadratic equations using the quadratic formula.

1) $m^2 + 3 = 7m$ **2)** $3x^2 + 2x - 3 = 0$ **3)** $x^2 - 6x + 10 = 0$

4) $3y^2 + 7y + 1 = 2y - 3$ **5)** $3x^2 = 12x$ **6)** $2w^2 + 3w = 1 - 2w^2$

7) $10x^2 - 8x + 3 = 0$ **8)** $5x^2 + 12 = 12x$

Homefun Day 7:

Factor the expressions completely.

1. $x^2 + 8x - 48$ **2.** $2x^2 - 10x + 3x - 15$ **3.** $x^2 - 49y^2$

4. $12x^2 - x - 6$ **5.** $-36x^2y^3z^{12} + 72x^3yz^{10}$ **6.** $x^2 - 24$

7. $-2x^3 - 28x^2 - 98x$ **8.** $16x^2 - 24xy + 9y^2$ **9.** $12x^2 - 22x + 6$

Solve the equations.

10. $x^2 + 5x - 14 = 0$ **11.** $x^2 = 6x$ **12.** $2x^2 - 24 = -36$ **13.** $2(x+3)^2 - 7 = 15$

14. $27n^5 - 72n^4 = 0$ **15.** $\frac{1}{2}x^2 + 20 = 38$ **16.** $3(x+2)^2 = 27$ **17.** $4(x-6)^2 + 5 = 4$

Find the zeros of the function.

18. $y = 81x^2 - 16$ 19. $f(x) = 4x^2 + 18x + 18$ 20. $y = x^2 - 7x + 2x - 14$

Use the quadratic formula to solve the equation.

21. $x^2 + 6x = 10$ **22.** $2c^2 - 12c + 6 = 0$ **23.** $x^2 - x + 1 = 0$

24. $3x^2 - 2x = 3$ **25.** $x^2 + 10 = 6x$ **26.** $4x^2 + 1 = 4x$

27. The polynomial $x^2 + 11x + 30$ is factorable. One factor is $(x + 6)$, what is the other factor?

28. What is the **sum** of the solutions of $x^2 + 8x = 84$

29. Select **all** of the expressions that are equivalent to $-x^2 + 3x + 10$.

I.	$(x + 5)(x - 2)$
II.	$-(x + 2)(x - 5)$
III.	$(-x - 2)(x - 5)$
IV.	$(x + 2)(5 - x)$