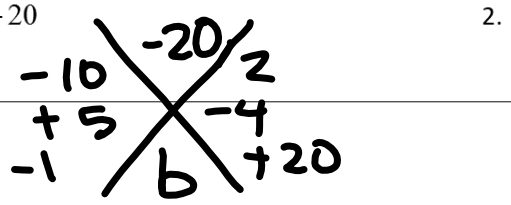
Bell Ringer

Thursday 9/27

iive three values of b that makes the polynomial factorable.

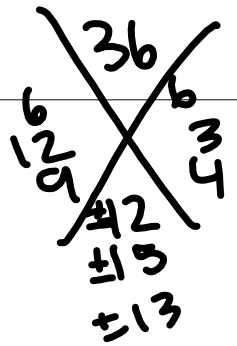
. $x^2 + bx - 20$



$-8, 8, -1, 1, -19, 19$

2. $x^2 - bx + 36$

$x^2 + 6x + 36$



Correct 3.5A ws - blue

Name: _____ Hour:_____

Sec. 3.5A

(Solving by Factoring or Square Root Method)

Solve each quadratic equation and write your answer in exact form.

1. $x^2-5x-14=0$

2. $5v^2-9v-18=0$ $a=5$ $b=-9$ $c=-18$

$$\frac{9\pm\sqrt{(-9)^2-4(5)(-18)}}{2(5)}$$

$x=3,-\frac{6}{5}$

$$\frac{9\pm\sqrt{441}}{10}=\frac{9\pm21}{10}$$

$\frac{9+21}{10}=\frac{30}{10}=3$ $\frac{9-21}{10}=\frac{-12}{10}$

3. $x^2+6=38$

4. $k^2-7k=0$

5. $(x-6)^2=9$

$x-6=\pm3$

$+6 \quad +6$

$x=9,3$

6. $m^2=-3m-2$

7. $9x^2=4$

8. $8x^2-6=47x$

9. $n^2-n=6$

10. $2(x+1)^2=16$

$\frac{2}{2} \quad \frac{2}{2}$

$\sqrt{(x+1)^2}=\sqrt{8}$

$x+1=\pm2\sqrt{2}$

$-1 \quad -1$

$x=-1\pm2\sqrt{2}$

$-1+2\sqrt{2}, -1-2\sqrt{2}$

11. $2n^2=4n$

$\sqrt{8}=2\sqrt{2}$

$2\cdot2$

$2 \quad 2$

12. $6b^2=294$

13. $x^2 - x = 42$

14. $9 + 10n = -n - 2n^2 - 3$

15. $n^2 + 3 = 67$

16. $40n^2 - 32 = 8n$

17. $x^2 - 28 = 3x$

18. $16x^2 = 49$

19. $v^2 - 7v = -12$

20. $r^2 = 36r$

21. $3m^2 - 9m - 19 = 5 - 8m$

22. $x^2 = -11x - 30$

23. $9x^2 = 1$

24. $-3(x + 4)^2 = -15$

Name: Key Hour:_____

Sec. 3.5A

(Solving by Factoring or Square Root Method)

Solve each quadratic equation and write your answer in exact form.

1. $x^2-5x-14=0$

$(x+2)(x-7)=0$

$x=-2, 7$

2. $5v^2-9v-18=0$

$5v^2-15v+6v-18=0$

$5v(v-3)+6(v-3)=0$

$(5v+6)(v-3)=0$

$5v+6=0 \quad v-3=0$

$v=-\frac{6}{5}, \quad v=3$

3. $x^2+6=38$

$-6 \quad -6$

$\sqrt{x^2}=\sqrt{32}$

$x=\pm 4\sqrt{2}$

$\sqrt{32}$

$16 \quad 2$

$4 \quad 4$

4. $k^2-7k=0$

$k(k-7)=0$

$k=0, \ k=7$

5. $\sqrt{(x-6)^2}=\sqrt{9}$

$x-6=\pm 3$

$+6 \quad +6$

$x=9, 3$

6. $m^2=-3m-2$

$m^2+3m+2=0$

$(m+1)(m+2)=0$

$m=-1, -2$

7. $\sqrt{9x^2}=\sqrt{4}$ or $\frac{9x^2}{9}=\frac{4}{9}$

$\frac{3x}{3}=\pm\frac{2}{3}$

$x=\pm\frac{2}{3}$

$\sqrt{x^2}=\sqrt{\frac{4}{9}}$

$x=\pm\frac{2}{3}$

8. $8x^2-6=47x$

$8x^2-47x-6=0$

$(8x^2-48x)+(x-6)=0$

$8x(x-6)+1(x-6)=0$

$(8x+1)(x-6)=0$

$x=-\frac{1}{8}, \ x=6$

$-48 \quad 1 \quad -47$

9. $n^2-n=6$

$n^2-n-6=0$

$(n+2)(n-3)=0$

$n=-2, 3$

10. $\frac{2(x+1)^2}{2}=\frac{16}{2}$

$\sqrt{(x+1)^2}=\sqrt{8}$

$x+1=\pm 2\sqrt{2}$

$-1 \quad -1$

$x=-1\pm 2\sqrt{2}$

$\sqrt{8}=2\sqrt{2}$

$4 \cdot 2$

$2 \cdot 2$

11. $2n^2=4n$

$2n^2-4n=0$

$2n(n-2)=0$

$n=0, 2$

12. $6b^2=294$

$\frac{6b^2}{6}=\frac{294}{6}$

$\sqrt{b^2}=\sqrt{49}$

$b=\pm 7$

13. $x^2 - x = 42$

$x^2 - x - 42 = 0$

$(x-7)(x+6) = 0$

$x = 7, -6$

14. $9 + 10n = -n - 2n^2$

$+3 \quad +2n^2$

$2n^2 + 11n + 12 = 0$

$24, 11, 8, 3$

$(2n^2 + 8n) + (3n + 12) = 0$

$2n(n+4) + 3(n+4) = 0$

$(n+4)(2n+3) = 0$

$n = 4, -\frac{3}{2}$

15. $n^2 + 3 = 67$

$-3 \quad -3$

$\sqrt{n^2} = \sqrt{64}$

$n = \pm 8$

16. $40n^2 - 32 = 8n$

$40n^2 - 8n - 32 = 0$

$-1280, -40, -8, 32$

$(40n^2 - 40n) + (32n - 32) = 0$

$40n(n-1) + 32(n-1) = 0$

$(40n + 32)(n-1) = 0$

$n = -\frac{32}{40} = -\frac{4}{5}, \quad n = 1$

17. $x^2 - 28 = 3x$

$x^2 - 3x - 28 = 0$

$-28, -7, 4, -3$

$(x-7)(x+4) = 0$

$x = 7, -4$

18. $16x^2 = 49$

$\frac{16}{16} \quad \frac{49}{16}$

$\sqrt{x^2} = \pm\sqrt{\frac{49}{16}}$

$x = \pm\frac{7}{4}$

19. $v^2 - 7v = -12$

$v^2 - 7v + 12 = 0$

$(v-3)(v-4) = 0$

$v = 3, 4$

20. $\sqrt{r^2} = \sqrt{36r}$

$r^2 - 36r = 0$

$r(r-36) = 0$

$r = 0, 36$

21. $3m^2 - 9m - 19 = 5 - 8m$

$+8m \quad -5 \quad -5 \quad +8m$

$3m^2 - 1m - 24 = 0$

$-72, -9, 8, -1$

$(3m^2 - 9m) + (8m - 24) = 0$

$3m(m-3) + 8(m-3) = 0$

$(3m+8)(m-3) = 0$

$m = -\frac{8}{3}, 3$

22. $x^2 = -11x - 30$

$x^2 + 11x + 30 = 0$

$(x+6)(x+5) = 0$

$x = -6, -5$

23. $9x^2 = 1$

$\frac{9}{9} \quad \frac{1}{9}$

$\sqrt{x^2} = \sqrt{\frac{1}{9}}$

$x = \pm\frac{1}{3}$

24. $-3(x+4)^2 = -15$

$\frac{-3}{-3} \quad \frac{-15}{-3}$

$\sqrt{(x+4)^2} = \sqrt{5}$

$x + 4 = \pm\sqrt{5}$

$-4 \quad -4$

$x = -4 \pm \sqrt{5}$

Questions??? - Due Monday

SMII Name:_____

Discriminant and Quadratic Formula

Hour:_____

Find the discriminant of each quadratic equation then state the number and type of solutions.

1) $-k^2 + 2k + 3 = 0$

2) $9x^2 - x + 12 = 0$

3) $-4n^2 - 12n - 9 = 0$

4) $4p^2 + 6p + 7 = 11$

Solve each equation with the quadratic formula.

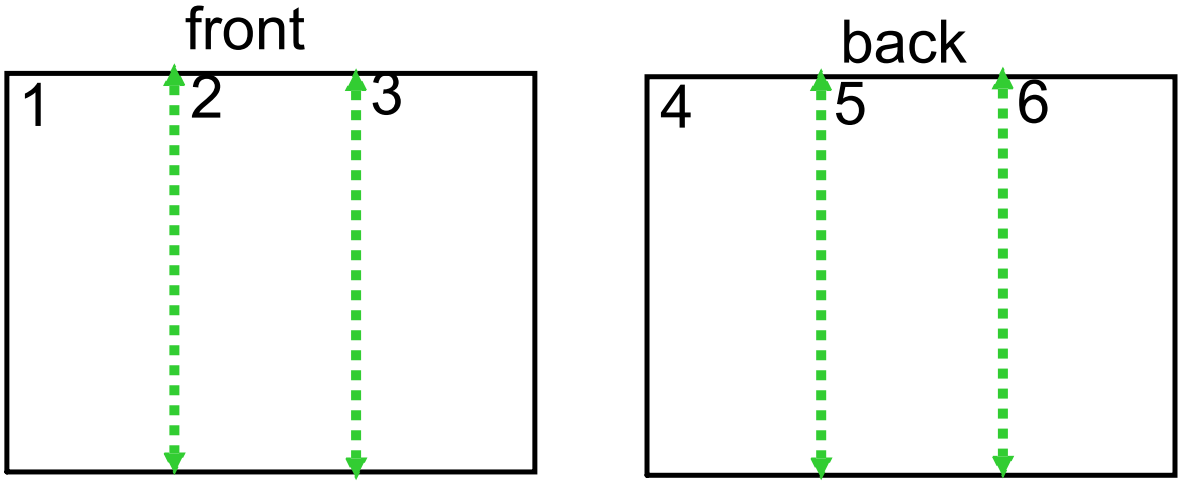
5) $10n^2 - 8 = 0$

6) $4x^2 + 2x - 110 = 0$

7) $8x^2 + 12x - 9 = 0$

8) $2k^2 - 3k - 12 = 5$

Fold your paper into thirds



1

Solve for x

$4x^2 = 36$

$\frac{4x^2}{4} = \frac{36}{4}$

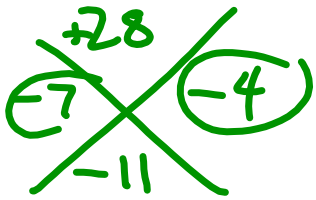
$\sqrt{x^2} = \sqrt{9}$

$x = \pm 3$

2

Solve for x

$x^2 - 11x + 28 = 0$



$(x-7)(x-4) = 0$

$x-7=0$ $\quad$ $x-4=0$

$+7 \quad +7$ $\quad$ $+4 \quad +4$

$x=7$ $\quad$ $x=4$

3 Solve for x

$3x^2 - 9x = 0$

$+0$

$3x(x-3)=0$

$\frac{3x}{3}=\frac{0}{3}$ $\quad x-3=0$

$x=0$ $\quad +3 \quad +3$

$x=3$

4 Solve for x

$2x^2 + 15x - 8 = 0$

$a = 2, \quad b = 15, \quad c = -8$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\frac{-(15) \pm \sqrt{(15)^2 - 4(2)(-8)}}{2(2)}$$

$$\frac{-15 \pm \sqrt{289}}{4}$$

$$\frac{-15 \pm 17}{4}$$

$$\frac{1}{2} = \frac{2}{4} = \frac{-15+17}{4} \qquad \frac{-15-17}{4} = \frac{-32}{4} = -8$$

5

Solve for x

$2(x-3)^2 + 1 = 33$

$-1 \quad -1$

$\frac{2(x-3)^2}{2} = \frac{32}{2}$

$\sqrt{(x-3)^2} = \sqrt{16}$

$x-3 = \pm 4$

$x-3=4$ $\quad +3 \quad +3$

$x = 7$

$x-3=-4$ $\quad +3 \quad +3$

$x = -1$

6 Solve for x

$2x^2 - 3x - 12 = 5$

$-5 \quad -5$

$2x^2 - 3x - 17 = 0$

$$\frac{-(-3) \pm \sqrt{(-3)^2 - 4(2)(-17)}}{2(2)}$$

$$\frac{3 \pm \sqrt{145}}{4} = \frac{3+\sqrt{145}}{4}, \frac{3-\sqrt{145}}{4}$$

$\sqrt{145}$

$5 \quad 29$

due Wednesday - SIX DAYS!

that's about 4 problems each day

Name: _____ Hour: _____

Sec. 3.7B: Solving Quadratics Review

Solve using the method of your choice. Show all of your work.

1. $5x^2 - 2x - 3 = 0$

2. $x^2 + 5x + 5 = 0$

3. $3x^2 - 9x - 54 = 0$

4. $x^2 - x = 12$

5. $x^2 + 12x + 36 = 5$

6. $x^2 - 11x + 24 = 0$

7. $x^2 + 15x + 24 = -32$

8. $x^2 + 7x + 11 = 0$

9. $12x^2 = -4x$

10. $(2x+1)(x-3) = 0$

11. $(x+5)^2 - 12 = 0$

12. $x^2 + 3x = 14$

13. $x^2 - 8x = -16$

14. $4x^2 + 8 = -3x$

15. $6(x-4)^2 + 8 = 20$

16. $6x^2 - 54 = 0$

17. $3x^2 + 7x - 24 = -13x$

18. $7x^2 - 10 = 25$

19. $25x^2 = 121$

20. $2x^2 + 7x - 4 = 0$