

Today's Plan:

Learning Target (standard): I will review for my final exam.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, and complete practice problems.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide examples of new concepts and assign students assessment problems over review concepts.

Assessment: Board work and review problems

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in review problems for the final exam.

Semester Grade: www.math4tigers.org

Normal: $.40Q_3 + .40Q_4 + .20exam = semester$

Exemption: $.50Q_3 + .50Q_4 = semester$

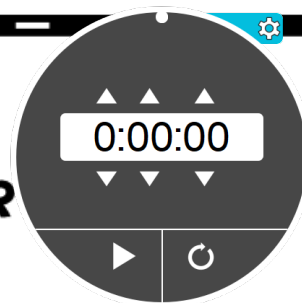
Replacement:

State 3 $.40Q_3 + .40Q_4 + .20(75) = semester$

State 4 $.40Q_3 + .40Q_4 + .20(85) = semester$

State 5 $.40Q_3 + .40Q_4 + .20(95) = semester$

NAME _____



#161

BELL RINGER

1.) Solve $x+3=5$
 $x=2$

2.) Write the next three terms of the geometric sequence.
1, 3, 9, 27, ...

mult. by 3

81, 243, 729

3.) Identify the slope and y-intercept of the linear equation
 $y = 3x + 2$

 $m=3$
 $I_y: (0, 2)$

Factor each completely.

1) $p^2 - 15p + 54$

$\begin{matrix} 54 \\ \swarrow \quad \searrow \\ -9 \quad +6 \\ \hline -15 \end{matrix}$

$$p^2 - 9p - 6p + 54$$

$$p(p-9) - 6(p-9)$$

$$(p-9)(p-6)$$

2) $x^2 + 11x + 30$

$\begin{matrix} 30 \\ \swarrow \quad \searrow \\ 6 \quad +5 \\ \hline 11 \end{matrix}$

$$x^2 + 6x + 5x + 30$$

$$x(x+6) + 5(x+6)$$

$$(x+6)(x+5)$$

3) $r^2 + 3r - 54$

$\begin{matrix} 54 \\ \swarrow \quad \searrow \\ 9 \quad -6 \\ \hline 3 \end{matrix}$

$$r^2 + 9r - 6r - 54$$

$$r(r+9) - 6(r+9)$$

$$(r+9)(r-6)$$

4) $p^2 + 4p - 45$

$\begin{matrix} 45 \\ \swarrow \quad \searrow \\ 9 \quad -5 \\ \hline 4 \end{matrix}$

$$p^2 + 9p - 5p - 45$$

$$p(p+9) - 5(p+9)$$

$$(p+9)(p-5)$$

5) $25p^2 - 16$

$$(5p+4)(5p-4)$$

6) $9x^2 - 6x + 1$

$\begin{matrix} 9 \\ \swarrow \quad \searrow \\ -3 \quad +3 \\ \hline -6 \end{matrix}$

$$9x^2 - 3x - 3x + 1$$

$$3x(3x-1) - 1(3x-1)$$

$$(3x-1)^2 \leftarrow (3x-1)(3x-1)$$

7) $16x^2 - 25$

$$(4x+5)(4x-5)$$

8) $7n^3 - 21n^2 - 6n + 18$

$$7n^2(n-3) - 6(n-3)$$

$$(n-3)(7n^2-6)$$

9) $10x^3 + 2x^2 - 15x - 3$

$$2x^2(5x+1) - 3(5x+1)$$

$$(5x+1)(2x^2-3)$$

10) $5x^3 + 5x^2 + 6x + 6$

$$5x^2(x+1) + 6(x+1)$$

$$(x+1)(5x^2+6)$$

11) $5v^2 + 21v + 4$

$\begin{matrix} 20 \\ \swarrow \quad \searrow \\ 20 \quad +1 \\ \hline 21 \end{matrix}$

$$5v^2 + 20v + v + 4$$

$$5v(v+4) + 1(v+4)$$

$$(v+4)(5v+1)$$

12) $2x^2 - 9x$

$$x(2x-9)$$

13) $2n^2 - 13n - 45$

$\begin{matrix} 90 \\ \swarrow \quad \searrow \\ 5 \quad -18 \\ \hline -13 \end{matrix}$

$$2n^2 + 5n - 18n - 45$$

$$n(2n+5) - 9(2n+5)$$

$$(2n+5)(n-9)$$

14) $7m^2 + 9m - 10$

$\begin{matrix} 70 \\ \swarrow \quad \searrow \\ 14 \quad -5 \\ \hline 9 \end{matrix}$

$$7m^2 + 14m - 5m - 10$$

$$7m(m+2) - 5(m+2)$$

$$(m+2)(7m-5)$$

17) $12n^3 + 8n^2 + 21n + 14$

$$4n^2(3n+2) + 7(3n+2)$$

$$(3n+2)(4n^2+7)$$

18) $144x^3 + 48x^2 + 54x + 18$

$$48x^2(3x+1) + 18(3x+1)$$

$$(3x+1)(48x^2+18)$$

$$6(3x+1)(8x^2+3)$$

Solve each equation by factoring.

19) $-4v^2 - 41 = -6v^2 + 5v + 1$

$$2v^2 - 5v - 42 = 0$$

$$2v^2 + 7v - 12v - 42 = 0$$

$$v(2v+7) - 6(2v+7) = 0$$

$$(2v+7)(v-6) = 0$$

$$\begin{matrix} 84 \\ \wedge \\ 7 \cdot 12 = -5 \end{matrix}$$

$$2v+7=0 \quad v-6=0$$

$$2v=-7 \quad v=6$$

$$v=-\frac{7}{2}$$

20) $14p^2 - 29p + 24 = 7p^2$

$$v = -\frac{7}{2}, 6$$

Solve each equation by taking square roots.

21) $5v^2 + 5 = 250$

$$5v^2 = 245$$

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

$$v = 7, -7$$

$$\begin{matrix} 89 \\ \wedge \end{matrix}$$

22) $8a^2 - 5 = 707$

$$8a^2 = 712$$

$$\sqrt{a^2} = \sqrt{89}$$

$$a = \sqrt{89}, -\sqrt{89}$$

$$\frac{b}{2} = 3^2 = 9$$

Solve each equation by completing the square.

23) $v^2 - 4v - 2 = 10$

$$v^2 - 4v + 4 = 12 + 4$$

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

$$v-2 = 4, -4$$

$$v = 6, -2$$

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

24) $v^2 - 6v - 87 = 5$

$$v^2 - 6v + 9 = 92 + 9$$

$$\sqrt{(v-3)^2} = \sqrt{101}$$

$$v-3 = \sqrt{101}, -\sqrt{101}$$

$$v = 3 + \sqrt{101}, 3 - \sqrt{101}$$

17) $12n^3 + 8n^2 + 21n + 14$

18) $144x^3 + 48x^2 + 54x + 18$

Solve each equation by factoring.

19) $-4v^2 - 41 = -6v^2 + 5v + 1$

$2v^2 - 5v - 42 = 0$

$2v^2 + 7v - 12v - 42 = 0$

$v(2v+7) - 6(2v+7) = 0$

$(2v+7)(v-6) = 0$

$2v+7=0 \quad v-6=0$
 $2v=-7 \quad v=6$

84
 $7-12=-5$

$v = -\frac{7}{2}, 6$

$p = 3, \frac{8}{7}$

20) $14p^2 - 29p + 24 = 7p^2$

$7p^2 - 29p + 24 = 0$

$7p^2 - 21p - 8p + 24 = 0$

$7p(p-3) - 8(p-3) = 0$

$(p-3)(7p-8) = 0$

$7p-8=0$

$7p=8$
 $p = \frac{8}{7}$

$p-3=0$
 $p=3$

Solve each equation by taking square roots.

21) $5v^2 + 5 = 250$

$5v^2 = 245$

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

$v = 7, -7$

22) $8a^2 - 5 = 707$

$8a^2 = 712$

$\sqrt{a^2} = \sqrt{89}$

$a = \sqrt{89}, -\sqrt{89}$

Solve each equation by completing the square.

23) $v^2 - 4v - 2 = 10$

24) $v^2 - 6v - 87 = 5$

$$20) 14p^2 - 29p + 24 = 7p^2$$

$$7p^2 - 29p + 24 = 0$$

$$7p^2 - 21p - 8p + 24 = 0$$

$$7p(p-3) - 8(p-3) = 0$$

$$(p-3)(7p-8) = 0$$

$$p = 3, \frac{8}{7}$$

$$\begin{array}{c} 168 \\ \swarrow \quad \searrow \\ -21 \quad + \quad -8 = -29 \end{array}$$

$$p-3=0$$

$$p=3$$

$$7p-8=0$$

$$7p=8$$

$$p = \frac{8}{7}$$