Algebra 2

Name:_____

SOL Do Now 1 DO NOW PACKET 1

1. Which of the following is equivalent to $\frac{3x^3 - 75x}{x(x+5)(x+5)}$?

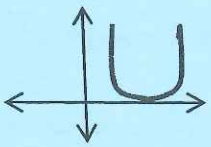
A -3

B $-\frac{1}{x^2}$

C $\frac{x-5}{x+5}$

D $\frac{3(x-5)}{x+5}$

2. What is the range of the function?



F {all real nos.}
G {all real nos. ≥ 0}
H {all real nos. ≤ 0}
J {0 < y < 3}

3. Which of these is equivalent to 1?

A i^{24}

B i^{42}

C i^{66}

D i^{82}

4. What is the simplest form of $(2+5i)^2$?

F -21
G -29
H -21 + 20i
J -29 + 20i

5. If $f(x) = -2x^2 + x - 5$, what is f(3)?

A -20
B -14
C 16
D 34

6. What is the factored form of $x^2 - 49k^2$?

F (x + 7k)(x – 7k)
G (x + k)(x – 49k)
H $(x + 7k)^2$
J $(x – 7k)^2$

Algebra 2

Name:_____

SOL Do Now 2

1. Which of the following is equivalent to $\sqrt{3} \bullet \sqrt{-3}$?

A $3i$

B $-3i$

C 9

D $9i$

2. What is the range of f(x) = 3x+5 if the domain is {-1,0,1,2,3}?

F {0,2,9,11,14}
G {-8,-5,-2,1,4}
H {-4,-2,-1,5,8}
J {2,5,8,11,14}

3. What are the zeros of the function $f(x) = x^2 - 5x - 6$?

A x = -6; x = 1
B x = 6; x = -1
C x = 2; x = -3
D x = -2, x = 3

4. Which expression is equivalent to $\sqrt[5]{32x^{10}y^2}$?

F $2x^2y^{\frac{2}{5}}$

G $2x^5y^{-3}$

H $\frac{32}{5}x^{\frac{1}{2}}y^{\frac{5}{2}}$

J $\frac{32}{5}x^{50}y^{10}$

5. What is the tenth term in this geometric sequence?
0.2, 1, 5, 25, 125, ...

A 78,125
B 390,625
C 1,953,125
D 9,765,625

6. What is the solution to the following system of equations?

$$\begin{cases} x^2 + y^2 = 5 \\ x + y = 1 \end{cases}$$

F {(1,-2),(1,2)}
G {(-2,1),(2,1)}
H {(-1,-2),(1,2)}
J {(-1,2),(2,-1)}

Algebra 2

Name:_____

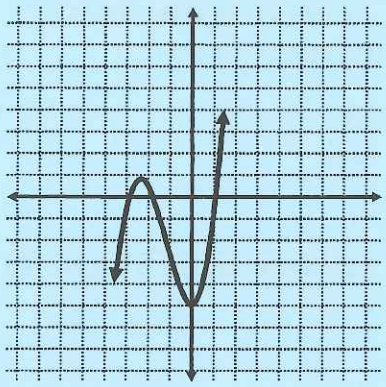
SOL Do Now 3

1. TEI: Which of the following is equivalent to $\frac{5}{4+i}$? **Put your answer in the box.**	**2. What is the domain of the function g(x) = $\sqrt{x-2}$?** F {all real numbers} G {all real numbers > 0} H {all real numbers > 2} J {all real numbers <2|	**3. Which of these represents the solution to $\sqrt{2x-2}=4$?** A {8} B {9} C {3} D { }
4. How many committees of 3 students and 5 teachers can be chosen to serve if you have 6 students and 8 teachers to choose from? F 40,324 G 12,342 H 1120 J 1100	**5. What is the simplest form of $\frac{x^2-9}{x^2+6x+9}\bullet\frac{x^2+5x+6}{x^2-x-6}$?** A $\frac{x+2}{x-2}$ B $\frac{x-2}{x+2}$ C 0 D 1	**6. For the function f(x) = $\frac{x-1}{x+1}$, which describes the End Behavior as $x\to\infty$?** F y approaches ∞ G y approaches $-\infty$ H y approaches 0 J y approaches 1

Algebra 2

Name:_____

SOL Do Now 4

1. Which of the following expressions represents $f(g(x))$ $f(x)=x-5$ and $g(x)=x^2-9$? A $(x-5)^2-9$ B x^2-14 C x^2-4 D $x^2-10x+16$	**2. What is the solution set for $x^2+2x=-17$?** $x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$ F {1 - 8i, 1 + 8i} G {-1 - 8i, -1 + 8i} H {1 - 4i, 1 + 4i} J {-1 + 4i, -1 - 4i}	**3. TEI:**  **Which of the following are factors of f(x)? Circle all that apply.** $x-2$ $x+2$ $x-3$ $x+3$ $x+1$ $x-1$ $x-5$ $x+5$
4. Which is the factored form of $1-y^3$? F $(1-y)(1-y-y^2)$ G $(1-y)(1+y+y^2)$ H $(1-y)^3$ J $(1+y)^3$	**5. If the factors of a quadratic equation are (n – 4) and (n + 10), then the zeros would be :** A {-4, -10} B {4,10} C {-4,10} D {4,-10}	

Algebra 2

Name:_____

SOL Do Now 5

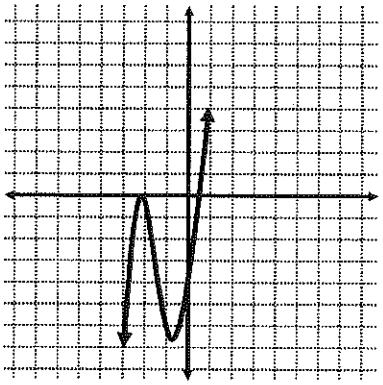
1. Which of the following is the simplified form of $\sqrt[3]{54}+\sqrt[3]{16}$?

A $\sqrt[3]{70}$
B $5\sqrt[3]{2}$
C $5\sqrt[3]{4}$
D $6\sqrt[3]{2}$

2. What is the solution to the equation $\sqrt{x-4}+9=11$?

F x = 8
G x = 78
H x = 36
J x = 16

3. Which appears to be a turning point?



A (2, 0)
B (0, -8)
C (-1, -3)
D (-2, 0)

4. In how many ways can you arrange 4 pictures on the wall if you are using all 4 pictures?

F 12
G 24
H 36
J 14

5. What value of x is the solution to the equation $\frac{4x-30}{3}+\frac{6x+8}{2}=9$?

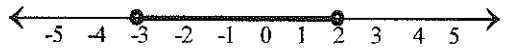
A x = 28/5
B x = 45/13
C x = 8/5
D x = 23/24

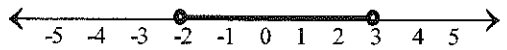
Algebra 2

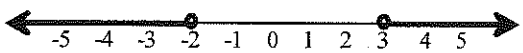
Name:_____

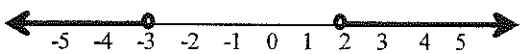
SOL Do Now 6

1. Which best represents the graph of $|2x-1|-2>3$?

A 

B 

C 

D 

2. When completely factored, $2x^2 - 16x + 32$ is equivalent to:

F 2(x-4)(x+4)
G 2(x-2)(x-8)
H 2(x+8)(x+2)
J $2(x-4)^2$

3. Which of these is equivalent to the following complex fraction? $\frac{\frac{2k}{5}}{\frac{6k}{10}}$

A $\frac{k}{6}$ B $\frac{3}{2}$
C $\frac{2}{3}$ D $\frac{6k^2}{25}$

4. Simplify: $\sqrt{-100}-\sqrt{-4}$

F $-12i$
G $-8i$
H $8i$
J $-8i$

5. What is a_5? $A_n=5 \cdot 2^{(n-1)}$

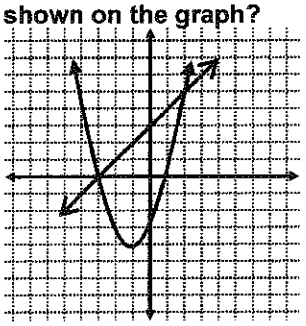
A 160
B 80
C 40
D 10

Algebra 2

Name:_____

SOL Do Now 7

1. Which is the apparent solution set to the system of equations shown on the graph?



A {(-3,1)
B {(-3,0),(2,5)}
C {(-3,0), (1,0), (2,5)}
D {(-3,0), (-1,-4), (1,0), (2,5)}

2. What is the sum of the following infinite geometric series:

$$2+1+\frac{1}{2}+\frac{1}{4}+\frac{1}{8}+\ldots\ldots$$

F 3
G 4
H 5
J 6

3. TEI: Identify each function with the same range as $f(x)=|x|-4$.

Click on a box to choose each function you want to select. You must select all functions.

For here, just put a check beside each function.

$g(x)=x^2+2x-3$

$h(x)=x^3-4$

$j(x)=2^x-5$

$k(x)=\sqrt{x}-4$

$m(x)=(x-4)^2$

4. A college professor was matching raw test scores to averaged scores within a class. This table shows the match for four students in the class. Based on a line of best fit, which is the best prediction for the averaged score that matches a raw score of 70?

F 83
G 85
H 87
J 90

5. TEI: The following sequence is given in recursive form:

$$\begin{cases} a_1 = 8 \\ a_n = 2a_{n-1}+5 \end{cases}$$

What is the value of the third term?

Algebra 2

Name:_____

SOL Do Now 8

1. Assuming k is a constant of variation, which equation represents a situation in which y varies jointly as a and b?

A y = kab **B** $y=\frac{ab}{k}$

C $y=\frac{k}{ab}$ **D** $y=\frac{ka}{b}$

2. What is the solution to the following system of equations?

$$\begin{cases} y = 2x-3 \\ y = -x^2+5x+1 \end{cases}$$

F {(-1,-5), (4,5)
G {(1,5), (4,5)
H {(-6,-15), (9,15)}
J {(1.5,0)}

3. TEI: A store owner employs a total of 3 cashiers and 7 clerks. The owner plans to select a committee of 1 cashier and 2 clerks. What is the number of different committees the owner could choose?

4. What is the domain of the function $f(x)=\frac{1}{x}$ **?**

F {all real nos.}
G {all non-zero real numbers}
H {all real numbers greater than zero}
J {all real nos. less than zero}

5. The graph of $h(x)=\frac{2x-1}{x}$ **has**

A 1 x-intercept, 1 y-intercept
B 1 x-intercept, no y-intercept
C 2 x-intercepts, 1 y-intercept
D 2 x-intercepts, no y-intercepts

6. Which type of function is $f(x)=3(x-2)^2+1$ **?**

F Quadratic
G Linear
H Exponential
J Cubic

Algebra 2

Name:_____

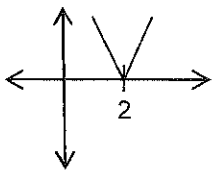
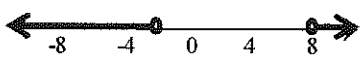
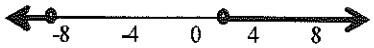
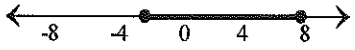
SOL Do Now 9

1. Use your standard normal bell curve to find the following area under the curve: $P(\mu-\sigma \le x \le \mu+2\sigma)$ **A** 68% **B** 95% **C** 81.5% **D** 99%	**2. What are the coordinates of the vertex of the graph of the function $-2(x-1)^2 = y + 5$?** **F** (-1,5) **G** (2,5) **H** (1,-5) **J** (-2,-5)	**3. Which is a zero of the function f(x) = (x+3)(2x-1)(x+2) ?** **A** 3 **B** 0 **C** -1 **D** -2
4. What is the solution to $\sqrt[3]{x-4} = -5$ **?** **F** x = -121 **G** x = -1 **H** x = 29 **J** x = 129	**5. Given f(x) = -3x + 4 and g(x) = x + 7, What is the value of g(f(2)) ?** **A** -23 **B** -18 **C** 5 **D** 7	**6. The graph of y = 4x – 10 is translated up 7 units. Which equation represents the translated graph?** **F** y=4x+7 **G** y=4x-7 **H** y=4x-3 **J** y=11x-10

Algebra 2

Name:_____

SOL Do Now 10

1. TEI: The mean of a data set is 163 and the standard deviation is 5. What percent of the data is between 148 and 158?	**2. The graph most accurately represents which of the following functions ?**  **F** $y = \lvert x+2 \rvert$ **G** $y = \lvert x-2 \rvert$ **H** $y = \lvert x \rvert + 2$ **J** $y = \lvert x \rvert - 2$	**3. Which graph *best* represents the solution to the following inequality?** $\lvert x-3 \rvert < 5$ **A**  **B**  **C**  **D** 
4. What is the solution set for $(x+4)^2 = 0$? **F** {4} **G** {-4} **H** {-4,4} **J** {16}	**5. What type of function is $y = 2^x + 8$?** **A** Linear **B** Exponential **C** Cubic **D** Quadratic	**6. The time it takes to do a job is inversely proportional to the number of workers. If 8 workers can do a job in 6 days, then 16 workers can do the same job in -** **F** 1.5 days **G** 3 days **H** 6 days **J** 12 days

Algebra 2

Name:_____

SOL Do Now 11

1.
TEI: The number of seals observed during a wildlife survey was normally distributed with a mean of 73 and a standard deviation of 14.1. Find the probability that AT MOST 50 seals were observed during a survey.

a) Find the z-score $z = \frac{x-\mu}{\sigma}$

b) Find the probability using your table or your calculator.

2. Which of the following equations BEST models the data in the table?

X	Y
-2	5
-0.5	2
0	1
1.5	0.5
2.5	1.5
3	2.5

F $y = 2\left(\frac{4}{5}\right)^x$

G $y = x^2 + 1$

H $y = -\frac{3}{4}x + 2$

J $y = \frac{1}{2}x^2 - x + 1$

3. In how many ways can 2 letters from the word PROBLEMS be arranged?

A 16
B 56
C 60
D 124

4. What is the solution set for the given system of equations?

$$\begin{cases} y = x^2 - 6x + 1 \\ y = 2x - 14 \end{cases}$$

F {(3,-8), (5,-4)}
G {(-7,0), (0,1)}
H {(5,-4), (0,1)}
J {(3,-8)}

Algebra 2

Name:_____

SOL Do Now 12

1. What is the solution of
$4x^2 + 3x + 1 = 0$? $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

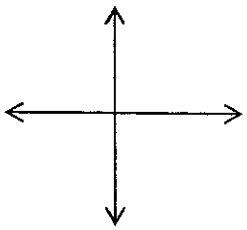
A $\left\{\frac{-3 \pm \sqrt{10}}{8}\right\}$

B $\left\{\frac{-3 \pm \sqrt{7}}{8}\right\}$

C $\left\{\frac{-3 \pm i\sqrt{10}}{8}\right\}$

D $\left\{\frac{-3 \pm i\sqrt{7}}{8}\right\}$

2. Which function represents this graph?



F $f(x) = \frac{8}{x+3}$

G $f(x) = \frac{8}{x-3}$

H $f(x) = \frac{x+1}{x+3}$

J $f(x) = \frac{x+1}{x-3}$

3. TEI: Indicate the intervals where the graph of $F(x) = 2x^3 - 3x^2 - 12x + 20$ is increasing.

Click on a box to choose each function you want to select. You must select all functions.

PUT A CHECK BESIDE EACH CORRECT ANSWER FOR TODAY.

$-\infty < x < \infty$
$-\infty < x < -1$
$-2.5 < x < \infty$
$-1 < x < 2$
$0 < x < \infty$
$2 < x < \infty$

4. What is the solution to

$$3\sqrt{2x-4} + 8 = 2\,?$$

F 5/2
G 4
H -4
J { }

5. How many permutations can be made using all of the letters in the word GENESIS ?

A 210
B 840
C 1260
D 5040