Math II Break packet **Name: _____**

Relax During Spring Break With Math 2 Spring Break Packet

Congratulations! You have earned your "I am so Excited to Relax with Math!" Break Packet! While on break, make sure enjoy the sunshine, spend time with friends and family, get some sleep, and keep your math skills sharp!

This homework is due: when we come back from break. You must complete all the problems, but you may work at your own speed!

_____ out of 20 = _____%	**Objectives:** • Standard form equation of a circle • Complex Number Operations • Factoring • Quadratic Formula • Cross sections of 3-D shapes • Simplify radical expressions	**Performance Level Ratings:** 4 - Student consistently exceeds the expected understanding of the content area/ skill. 3 - Student consistently demonstrates the expected understanding of the content area/ skill. Student functions with minimal teacher assistance and support. 2 - Student demonstrates partial understanding of the content area/skill. Student requires frequent teacher assistance and support. 1 - Student demonstrates limited understanding of the content area/skill. Student requires intensive teacher assistance, direction and support.
Produces Meticulous Work	✓++ (100%) Student consistently uses strategies on every problem and work is organized and meticulous. ✓+ (95%) Student consistently uses strategies on every problem and work is meticulous. ✓ (85%) Student uses strategies on most problems and work quality is average. ✓ − (75%) Student inconsistently uses strategies on every problem and work is sloppy ✓ − − (65%) Student does not use strategies and work is sloppy and disorganized	

Parent Signature (sign after grade is received): _____

Math 2 Spring Break Packet

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Form Identifier -- Do not mark

Double Check Your Work Habits:

For multiple choice questions, have you put your thinking on the page?

1) What is the center of the circle described below?

$$x^2 + y^2 - 4x - 6y + 9 = 0$$

a) (-4,-9) b) (2,3) c) (-2,-3) d) (4,9)

2) Write an equation of a circle with a center at (3,-5) and a radius of 3.

a) $(x-3)^2 + (y+5)^2 = 9$

b) $(x+3)^2 + (y-5)^2 = 9$

c) $(x-3)^2 + (y+5)^2 = 3$

d) $(x+3)^2 + (y-5)^2 = 3$

3) Solve the following equation by factoring:

$$z^2 - 6z - 27 = 0$$

A. Z = 3 or 9
B. Z = 3 or -9
C. Z = -3 or 9
D. Z = -3 or -9

4) Solve the following equation by factoring:

$$3z^2 + 3z - 6 = 0$$

A. Z = 1 or -2
B. Z = 3 or -2
C. Z = 1 or 2
D. Z = 3 or 2

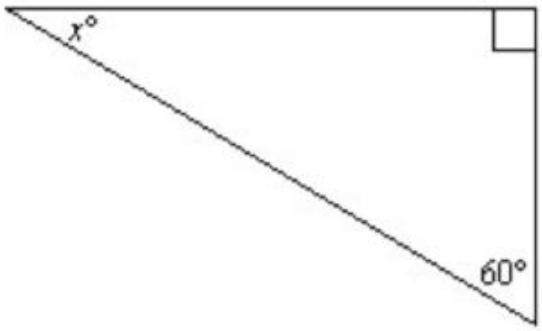
5) Solve for x if $12x - c = 2$.

A) $x = \frac{(c+2)}{12}$ C) $x = 2c - 12$
B) $x = \frac{(c-2)}{12}$ D) $x = 2c + 12$

6) Which expression is equivalent to $\frac{w^{15}z^{18}}{w^3}$?

A) w^5z^6 C) $w^{12}z^{15}$
B) w^5z^{18} D) $w^{12}z^{18}$

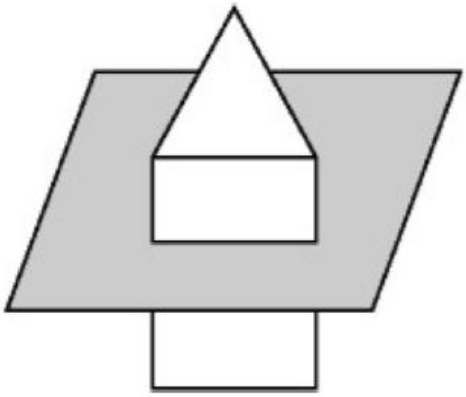
7) Find the missing measure of the angle in the following triangle.



a. 60
b. 90
c. 45
d. 30

8)

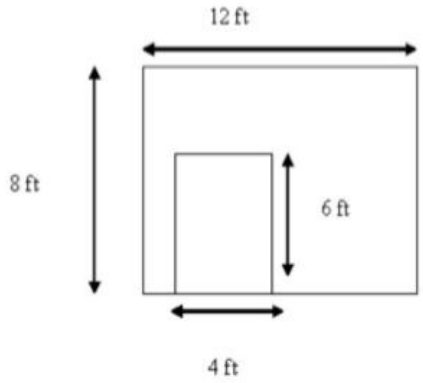
Find the shape resulting from the cross-section of the triangular prism.



a. triangle
b. rectangle
c. square
d. oval

Wednesday, April 10th

Cedrick is putting metallic wallpaper on one wall of his bedroom. If one roll of wallpaper holds 25 square feet of wallpaper, what is the minimum number of rolls that will he need?

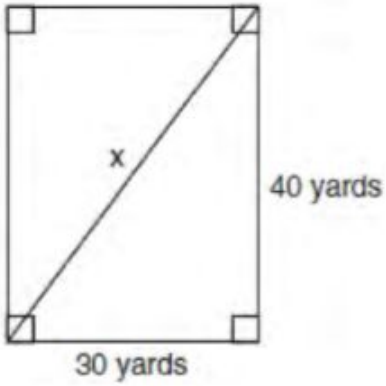


a. 6 b. 5

c. 4 d. 3

9)

Tanya runs diagonally across a rectangular field that has a length of 40 yards and a width of 30 yards, as shown in the diagram below.



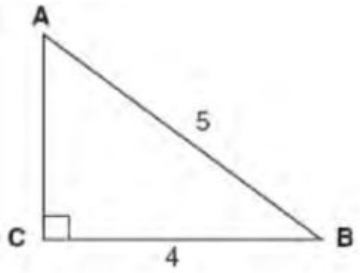
What is the length of the diagonal, in yards, that Tanya runs?

1) 50
2) 60
3) 70
4) 80

10)

Thursday, April11th

11) Which equation could be used to find the measure of one acute angle in the right triangle shown below?



1) $\sin A = \frac{4}{5}$
2) $\tan A = \frac{5}{4}$
3) $\cos B = \frac{5}{4}$
4) $\tan B = \frac{4}{5}$

12) Jack bought 3 slices of cheese pizza and 4 slices of mushroom pizza for a total cost of $12.50. Grace bought 3 slices of cheese pizza and 2 slices of mushroom pizza for a total cost of $8.50. What is the cost of one slice of mushroom pizza?

1) $1.50
2) $2.00
3) $3.00
4) $3.50

Friday, April 12th

13) What is $\frac{\sqrt{32}}{4}$ expressed in simplest radical form?

1) $\sqrt{2}$
2) $4\sqrt{2}$
3) $\sqrt{8}$
4) $\frac{\sqrt{8}}{2}$

14) Which expression represents $(3x^2y^4)(4xy^2)$ in simplest form?

1) $12x^2y^8$
2) $12x^2y^6$
3) $12x^3y^8$
4) $12x^3y^6$

Monday, April 15th

15) $0.6x - 1.2 = 3$

a) $x = 0.3$

b) $x = 3$

c) $x = 0.7$

d) $x = 7$

16)

You are driving to visit a friend in another state who lives 700 miles away. You are driving 65 miles per hour and have already driven 375 miles. Write and solve an equation to find how much longer in hours you must drive to reach your destination.

a. $700h - 375 = 65; h = 0.63$
b. $65h + 375 = 700; h = 5$
c. $65h + 375h = 700; h = 1.6$
d. $65h - 375h = 700; h = 16.5$

Tuesday, April 16th

17)

The inequality $-2 \leq x \leq 3$ can be written as

1) $(-2,3)$
2) $[-2,3)$
3) $(-2,3]$
4) $[-2,3]$

18)

Noj is 5 years older than Jacob. The product of their ages is 84. How old is Noj?

1) 6
2) 7
3) 12
4) 14

Wednesday, April 17th

19)

In ΔABC, $m\angle C = 90$. If $AB = 5$ and $AC = 4$, which statement is *not* true?

1) $\cos A = \frac{4}{5}$
2) $\tan A = \frac{3}{4}$
3) $\sin B = \frac{4}{5}$
4) $\tan B = \frac{5}{3}$

20)

The line represented by the equation $2y - 3x = 4$ has a slope of

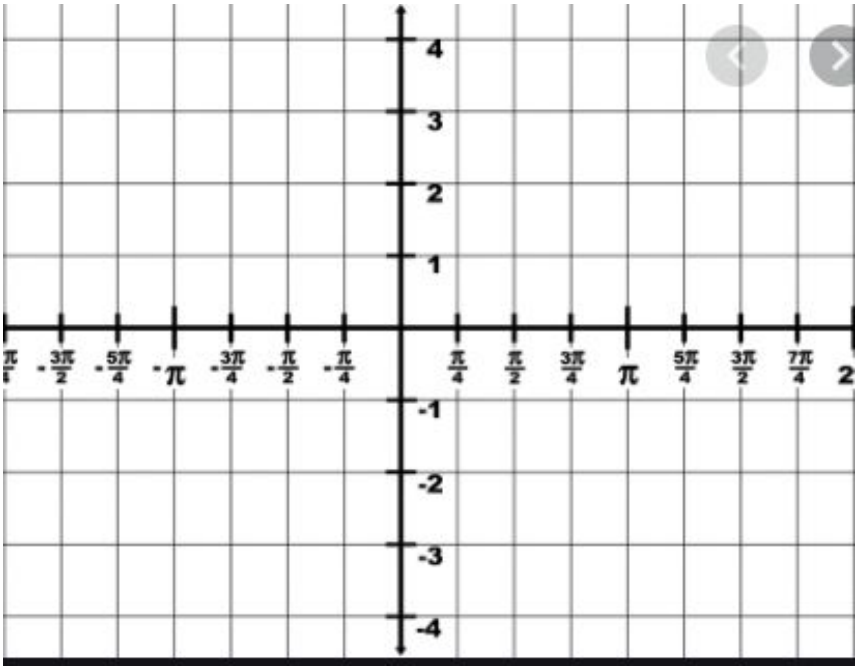
1) $-\frac{3}{2}$
2) 2
3) 3
4) $\frac{3}{2}$

Above and Beyond!

Get some practice with some ACT Practice Questions. The ACT is a test that you will take in high school and your score impacts the types of schools you can apply to and be accepted to. Take this time to get familiar with the types of questions this test will ask.

1. Graph the following equation

$f(x) = 4\cos(x)$



2. solve the following piecewise function

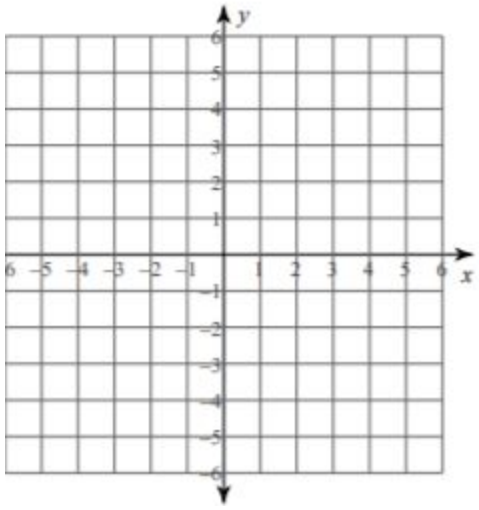
$$f(x) = \begin{cases} -2x - 1, & x \le 2 \\ -x + 4, & x > 2 \end{cases}$$

f(3)= f(2)= f(-3)

3. using the numbers from above solve: (box your answer
   3f(3) - f(2) - 6f(-3)

4. Graph the inequality completely

$$y \leq \frac{3}{5}x - 5$$



5. solve for x in the following equation

$$\frac{200}{x+2}w = \frac{4}{5}$$

Above and Beyond EXTRA

Factor and solve the following equations

1) $x^2 - 7x - 18$

2) $p^2 - 5p - 14$

3) $m^2 - 9m + 8$

4) $x^2 - 16x + 63$

5) $7x^2 - 31x - 20$

6) $7k^2 + 9k$