## Geometry <br> Summer Packet

# Math Summer Review Packet 

Why?

## 1) Because all students can improve their math skills

## 2) Because math is the gateway to opportunities after high school

$>$ The vocabulary and exercises in this review packet are designed to help you review topics from previous mathematics courses that are important to your success in this course.
$>$ This review packet will be graded, and this grade will become your first grade for the course.
$>$ To receive credit, you must show your work for each exercise.
$>$ Someone may assist you, if needed, but you need to write out all solutions and attempt to understand or remember the process and the vocabulary.
$>$ Assessments in September will further check your understanding of the topics contained in this review packet.
> Ten bonus points will be earned by all students who return this completed review packet on the first day of school.
$>$ Beginning the third day of school, five points per day will be deducted from the grade earned.
$>$ Ten points will be deducted each day from the grade earned during the second week of school.
$>$ After the second week of school, completed review packets will not be accepted and students will earn a grade of zero.
$>$ Additional copies of this review packet can be printed from the Mathematics Department website (in pdf) at:
http://enfield.sharpschool.com/departments/mathematics/
Here are some websites that you may find useful if you need help:
http://www.math.com/
http://www.mathleague.com/help/help.htm
http://www.freemathhelp.com/algebra-help.html
http://mathforum.org/library/drmath/drmath.high.html
http://www.mathtv.com
http://www.brightstorm.com
http://www.schooltube.com
http://www.purplemath.com
You may also want to check the resources available at your local library.

## Calculators in Math Class

Used wisely, calculators can be a powerful instructional tool. Students are expected to bring an appropriate calculator to class on a daily basis. Please note that cell phone calculator applications cannot be used on any test or quiz.

To meet Common Core Expectations, a Graphing Calculator is recommended for all math classes. Students will need to become comfortable and knowledgeable with graphing calculator technology in preparation for the new state test which will be administered to all students in Grade 11. A suitable Graphing Calculator can be purchased for approximately $\$ 100.00$. One example of an appropriate graphing calculator would be the TI-83 Plus. In preparation for the new school year, graphing calculators are usually on sale during the month of August.

For some applications, a Scientific Calculator may also be used in class. A suitable Scientific Calculator can be purchased for less than $\$ 20.00$. An example of an appropriate calculator would be the Texas Instruments TI-30XIIS Scientific Calculator.

## Course

Algebra 1
Geometry
Algebra 2
Precalculus
Calculus
SAT
Statistics \& Probability

## Calculator Type

Graphing Calculator, if possible, or a Scientific Calculator
Graphing Calculator, if possible, or a Scientific Calculator
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Graphing Calculator, if possible, or a Scientific Calculator
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If a student cannot afford the purchase of a graphing calculator, the school has a limited supply that can be loaned to students for the school year. To borrow a calculator for the school year, a loan form must be signed by the parent or guardian indicating that the student will replace the calculator with an equivalent one in an unopened package if the calculator is damaged or lost.
Geometry Summer PacketName
Answer Sheet (write all answers on this sheet)

1. $\qquad$
2. $\qquad$
3. $\qquad$
4. $\qquad$
5. $\qquad$
6. $\qquad$
7. $\qquad$
8. $\qquad$
9. $\qquad$
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21. $\qquad$
22. $\qquad$
23. $\qquad$
24. $\qquad$
25. $\qquad$
26. $\qquad$
27. $\qquad$
28. $\qquad$
29. $\qquad$
1) Add: $(2 x+5 y)+(3 x-2 y)$
A) $4 x+7 y$
B) $5 x+3 y$
C) $3 x+4 y$
D) $5 x+5 y$

Please show all work here:
2) Add: $\left(3 x^{3}+3 x^{2}-4 x+5\right)+\left(x^{3}-2 x^{2}+x-4\right)$
A) $2 x^{3}+5 x^{2}-5 x+9$
B) $4 x^{3}+5 x^{2}-3 x-1$
C) $4 x^{3}+1 x^{2}-3 x+1$
D) $3 x^{3}+1 x^{2}-2 x+9$

Please show all work here:
3) Subtract: $\left(x^{3}+3 x^{2}+5 x-4\right)-\left(3 x^{3}-8 x^{2}-5 x+6\right)$
A) $-2 x^{3}+11 x^{2}+10 x-10$
B) $-4 x^{3}+8 x^{2}+10 x+10$
C) $2 x^{3}+5 x^{2}-10 x-10$
D) $-2 x^{3}+11 x^{2}+10 x+2$

Please show all work here:
4)

Multiply: $\quad(x+3)(x+2)$
A) $3 x^{2}+2 x+5$
B) $2 x^{2}+2 x+6$
C) $x^{2}+2 x+5$
D) $x^{2}+5 x+6$

Please show all work here:
5)

Reduce to lowest terms: $\frac{252}{420}$
A) $\frac{126}{210}$
B) $\frac{2}{5}$
C) $\frac{3}{5}$
D) $\frac{36}{60}$

Please show all work here:
6)

Add: $\frac{1}{3}+\frac{1}{2}=$
A) $\frac{5}{6}$
B) $\frac{2}{5}$
C) $\frac{2}{6}$
D) $\frac{1}{5}$

Please show all work here:
7)

Subtract: $\frac{4}{7}-\frac{2}{5}=$
A) $\frac{2}{2}$
B) $\frac{2}{7}$
C) $\frac{2}{35}$
D) $\frac{6}{35}$

Please show all work here:
8) Find the GCF of 27,90 , and 84 .
A) 2
B) 3
C) 6
D) 9

Please show all work here:
9)

Factor out the GCF $\quad 12 x^{2} y^{3} z^{4}-2 x^{3} y z^{2}$
A) $2 x^{3} y^{3} z^{2}(6 x y z-1)$
B) $2 x^{2} y z^{2}\left(6 y^{2} z^{2}-x\right)$
C) $x^{3} y z\left(12 y^{2} z^{3}-2 x y z\right)$
D) $12 x^{2} y z^{3}\left(y^{2} z^{2}-6 x z\right)$

Please show all work here:
10) Factor out the GCF

$$
2 x y^{2}+6 x y^{3}
$$

A) $2 x y^{2}(1+3 y)$
B) $2 x y^{3}(1+3 x y)$
C) $6 x y^{3}(3+x y)$
D) $6 x y^{2}(2+x y)$

Please show all work here:
11) Factor the trinomial

$$
x^{2}+3 x-18
$$

A) $(x+3)(x-18)$
B) $(x-3)(x-6)$
C) $(x+3)(x-6)$
D) $(x-3)(x+6)$

Please show all work here:
12) Factor the trinomial

$$
x^{2}-9 x+20
$$

A) $(x-9)(x+20)$
B) $(x-5)(x+4)$
C) $(x-5)(x-4)$
D) $(x-2)(x+10)$

Please show all work here:
13)

Factor the trinomial

$$
2 x^{2}+5 x-12
$$

A) $(2 x-6)(x+2)$
B) $(2 x-5)(x+12)$
C) $(2 x-3)(x+4)$
D) $(x-4)(2 x+3)$

Please show all work here:
14)

Find the perimeter of the rectangle. Leave your answer in terms of x .

A) $10 x$
B) $2 x+5$
C) $100 x$
D) $4 x+10$

Please show all work here:
15) The triangle has a perimeter of 60 . Find the value of $x$, and the measure of each side.

A) $x=5 ; 10,15,150$
B) $x=4 ; 8,12,40$
C) $x=3 ; 6,9,30$
D) $x=6 ; 12,18,60$

Please show all work here:
16)

Your bedroom is 10 ft by 12 ft and you want to carpet the entire room. It costs $\$ 2.49 \mathrm{per}$ square foot for carpet at Lowe's. What is the square footage of the room, and how much will it cost to carpet the room? Draw a picture below and show your work.
A) 120 sq.ft; $\$ 298.80$
B) 22 sq.ft; $\$ 54.78$
C) 44 sq.ft; $\$ 109.56$
D) 240 sq. $f t$; $\$ 597.60$

Please show all work here:
17)

You make a garden in front of your house in the shape of a trapezoid. The trapezoid is as shown below. You want to prevent weeds from growing so you buy weed block. How many square feet of weed block will you need?

A) $\quad 420$ sq. ft
B) $\quad 47 \mathrm{sq} . \mathrm{ft}$
C) $\quad 3600$ sq. ft
D) $210 \mathrm{sq} . \mathrm{ft}$

Please show all work here:

Simplify the power expression

$$
2 k^{2} \cdot k^{2}
$$

A) $6 k^{3}$
B) $9 k^{4}$
C) $2 k^{4}$
D) $6 k^{4}$

Please show all work here:
19) Simplify the power expression

$$
2 x^{3} \cdot x^{2} \cdot 3 x^{2}
$$

A) $4 x^{3}$
B) $6 x^{7}$
C) $6 x^{4}$
D) $2 k^{4}$

Please show all work here:
20) Write the Slope - Intercept form of the equation for this line

A) $y=-4 x-1$
B) $y=-2 x-1$
C) $y=-x-2$
D) $y=x-2$

Please show all work here:
21)

Solve the inequality and graph its solution
$5(-1+m) \geq 45$

C) $m \geq-21$ :

B) $m \geq 10$ :
D) $m \geq 10$ :


Please show all work here:
22)

Solve the inequality and graph its solution

$$
2 n-5 \leq-7
$$



C) $n \leq-6$ :



Please show all work here:
23) Sketch a graph of this line

$$
y=-\frac{1}{2} x+5
$$

A)

B)

C)

D)


Please show all work here:

Sketch a graph of the line

$$
x-3 y=15
$$

A)

B)

C)

D)


Please show all work here:
25)

Sketch of graph of the linear inequality

$$
y>x-2
$$

A)

B)

C)

D)


Please show all work here:

Solve the equation $\frac{2}{3} x+5=13$
A) 6
B) 8
C) 12
D) 27

Please show all work here:
27) Solve the equation $4 \mathrm{x}-13=22-3 \mathrm{x}$
A) $\frac{7}{9}$
B) $\frac{9}{7}$
C) 5
D) $\quad 9$

Please show all work here:
28)

Solve the equation $\quad \frac{1}{3}(27 x+18)=12+6(x-4)$
A) -6
B) $\quad-3$
C) -2
D) 2

Please show all work here:
29) Solve the equation $6(2-x)+4 x=-5(x+3)$
A) $-\frac{9}{5}$
B) $-\frac{7}{3}$
C) $-\frac{27}{7}$
D) -9

Please show all work here:
30)

What is the value of: $\frac{10^{2}+8 * 7}{3(14 * 2-15)}$
A) $\frac{52}{23}$
B) 4
C) $\frac{187}{39}$
D) $\frac{826}{39}$

Please show all work here:
31) Find the slope of the line passing through $(-3,-6)$ and (7, -2 )
A) -2
B) 1
C) $\frac{4}{5}$
D) $\frac{2}{5}$

Please show all work here:
A) $2 \sqrt{5}$
B) $2 \sqrt{7}$
C) 10
D) 28

Please show all work here:
33)

Find the slope of the line:

A) $-\frac{3}{2}$
B) $-\frac{3}{4}$
C) $-\frac{2}{3}$
D) $-\frac{4}{3}$

Please show all work here:

