

## Summer Math Reinforcement Packet Students Entering 8th Grade

Our Seventh Graders had a busy year learning new math skills. **Mastery of all these skills is extremely important in order to develop a solid math foundation.** The eighth grade math program will add onto these 7th grade skills, so any time spent learning or reinforcing these concepts will be very beneficial for your child. Each year builds upon the previous year's skills in math. If your child has difficulty in any area, you may want to give them additional practice, including mastery of the multiplication tables. **Student mastery of the basic math skills is as important to success in further mathematical processes and reasoning as learning the alphabet is to reading and writing.**

Please have your child complete this packet to the best of his/her ability, using the samples problems to assist them in their **daily** practice.

After your child has completed the math packet and you feel your child is struggling on a certain concept and needs further practice, you can visit some of the web sites listed below. I realize not all sites work on all computers. You may reach me at [grade8@olsss.org](mailto:grade8@olsss.org) if you have any questions or concerns. Thank you and I wish you a happy, healthy, and holy summer.

Grace and Peace,  
Mrs. Thompson  
5-8 Math

[khanacademy.org](http://khanacademy.org)

[www.IXL.com](http://www.IXL.com)

[www.wildmath.com](http://www.wildmath.com)

[www.harcourtschool.com](http://www.harcourtschool.com)

[www.aplusmath.com](http://www.aplusmath.com)

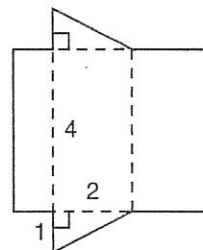
[www.mathisfun.com](http://www.mathisfun.com)

[www.illuminations.nctm.org](http://www.illuminations.nctm.org)

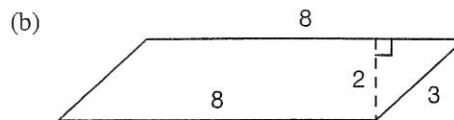
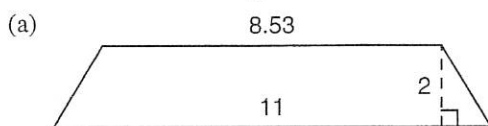
[www.aaamath.com](http://www.aaamath.com)



- The herd covered the first 90 miles in 15 hours. Then it doubled its pace to travel the next 200 miles. How long did it take the herd to travel the total distance of 290 miles?
- The former governor of Arkansas gave Trent 10 assignments the first week, 12 the next week, and 33 the week after that. What was the average number of assignments given per week?
- Ana bought a ring that was marked down 20 percent. If the original price was \$1500, how much did Ana pay?
- The water sprinklers malfunctioned in the shoe store, resulting in considerable damage. The manager, who had purchased the shoes for \$62,000, had marked them up 40% but was forced to sell them for half price. Her additional expenses for cleanup and repair were \$10,000. What was her net profit?
- Find the surface area of a pyramid whose base is a  $5 \text{ ft} \times 5 \text{ ft}$  square and whose faces have an altitude of 4 feet.
- Find the volume of a sphere with a radius of 8 feet.
- If the product of a number and  $-17$  is decreased by 4, the result is 3 greater than the product of the number and  $-9$ . What is the number?
- Pierre deposits \$4000 into an account that earns  $3\frac{1}{2}\%$  interest compounded twice per year. How much money will be in the account in two years if no additional deposits or withdrawals are made?
- The sales tax in Rome was VIII percent. How much tax did Clavdivs pay on a toga that cost CXXV denarii?
- Graph the following points on a rectangular coordinate system: (a) (3, 2) (b)  $(-4, 1)$  (c)  $(-2, 2)$
- One die is red and the other is blue. Both are rolled. What is the probability of getting a sum of (a) 11? (b) 7?
- Find the volume of the solid formed when the following figure is folded along the dashed lines. Dimensions are in inches.



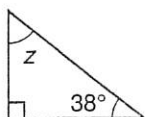
- Find the area of each figure. Dimensions are in meters.



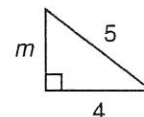
- To which number sets do (a)  $\frac{3}{5}$  and (b)  $-3$  belong?

- How many ways can 6 objects be arranged in a row?

- (a) Find  $z$ .



- (b) Find  $m$ .



- Evaluate:  $\sqrt[3]{b} + \sqrt{b} + a^2$  if  $a = 4$  and  $b = 81$

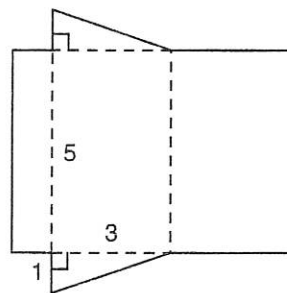
- Graph on a number line:  $x \geq 0$

Simplify:

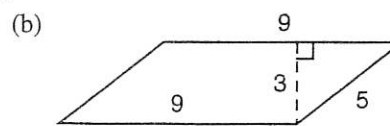
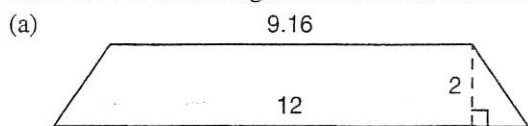
- $$\frac{(-1)^7 - 2(3^2 - 2 \cdot 4)}{3(\sqrt[3]{-216} + 2^3)}$$

- $$\frac{2}{3} \left( 3\frac{1}{2} \cdot \frac{1}{3} - \frac{1}{2} \cdot \frac{1}{4} \right)$$

- The boys covered the first 108 miles in 12 hours. Then they doubled their pace to travel the next 150 miles. How long did it take the boys to travel the total distance of 258 miles?
- The mayor of Chicago gave Kara 11 jobs the first week, 16 the next week, and 27 the week after that. What was the average number of jobs given per week?
- Julia bought a ring that was marked up 30 percent. If the dealer paid \$1000 for the ring, how much did Julia pay?
- The pipes in the dress shop burst, resulting in considerable loss. The manager, who had purchased the dresses for \$60,000, had marked them up 30% but was forced to sell them all for half price. Her additional expenses for cleanup and repair were \$12,000. What was her net profit?
- Find the surface area of a pyramid whose base is a  $3 \text{ ft} \times 3 \text{ ft}$  square and whose faces have an altitude of 2 feet.
- Find the volume of a sphere with a radius of 6 inches.
- If the product of a number and  $-15$  is decreased by 25, the result is 23 greater than the product of the number and 9. What is the number?
- Karen deposits \$5000 into an account that earns  $2\frac{3}{4}\%$  interest compounded twice per year. How much money will be in the account in two years if no additional deposits or withdrawals are made?
- The sales tax in Rome was VI percent. How much tax did Nero pay on a toga that cost CCCL denarii?
- Graph the following points on a rectangular coordinate system: (a) (4, 1) (b)  $(-1, 4)$  (c) (3, -3)
- One die is black and the other is red. Both are rolled. What is the probability of getting a sum of (a) 9? (b) 6?
- Find the volume of the solid formed when the following figure is folded along the dashed lines. Dimensions are in feet.



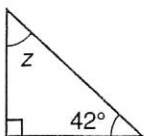
- Find the area of each figure. Dimensions are in centimeters.



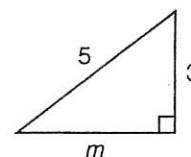
- To which number sets do (a)  $-7$  and (b)  $\frac{5}{7}$  belong?

- How many ways can 8 objects be arranged in a row?

- (a) Find  $z$ .



- (b) Find  $m$ .



- Evaluate:  $\sqrt[4]{b} + \sqrt{b} + a^3$  if  $a = 4$  and  $b = 256$

- Graph on a number line:  $x \leq 0$

Simplify:

- $$\frac{(-1)^8 - 2(2^3 - 2 \cdot 5)}{3(\sqrt[3]{-729} + 2^3)}$$

- $$\frac{2}{5} \left( 2\frac{1}{2} \cdot \frac{1}{3} - \frac{1}{2} \cdot \frac{1}{3} \right)$$