

Hello 7th graders!

I hope this finds you all well! Attached is your summer work.

A couple of reminders:

- Show ALL work on separate sheet of paper
- Check and correct your answers
- Make sure it is neat and legible
- Make note of questions or concepts you are having trouble with.

If you need anything at all please don't hesitate to reach out. Please do not wait until the last week to complete this packet. A suggested schedule is below, so you can manage your time.

Enjoy the rest of your summer!

Suggested Schedule

Week 1 - July 3 - Solving Equations

Week 2 - July 10 - Inequalities

Week 3 - July 17 - Percents and Proportions

Week 4 - July 24 - Properties of exponents, GCF and LCM

Week 5 - July 31 - Geometry

Week 6 - August 7 - Word problems

Rising 7 honors summer math

Week 1 - Multi-step equations - Solve each equation. Write an equation for the word problems and solve

1. $-20 = -4x - 6x$

2. $6 = 1 - 2x + 5$

3. $8x - 2 = -9 + 7x$

4. $x + 5 = -5x + 5$

5. $x - 1 = 5x + 3x - 8$

6. $5x - 14 = 8x + 4$

7. $-8 = -(x + 4)$

8. $12 = -4(-6x - 3)$

9. $14 = -(x - 8)$

10. $-(7 - 4x) = 9$

11. $-18 - 6x = 6(1 + 3x)$

12. $5x + 34 = -2(1 - 7x)$

13. $2(4x - 3) - 8 = 4 + 2x$

14. $3x - 5 = -8(6 + 5x)$

15. $\frac{3}{8} + \frac{9}{20}x = \frac{23}{20} + \frac{7}{8}x$

16. $6\frac{4}{5}x - \frac{8}{9} = \frac{7}{15}x$

16. Tickets to the county fair cost \$8 each. Seventy people purchased their tickets in advance and the rest bought them at the gate. The revenue from ticket sales is \$2560. How many people bought their tickets at the gate? Write and solve an equation.

17. You are collecting money during a student council T-shirt sale. Today you have collected money from Maria for 13 shirts, money from Kevin for 9 shirts, and money from Emma for 10 shirts. You collected a total of \$352. How much did each T-shirt cost?

18. Drum lessons at the youth center cost \$8 for members and \$12 for nonmembers. Membership is \$24. For what number of lessons is the cost the same for a member and a non member?

19. You are decorating for a school picnic. Balloons cost \$8 for a dozen but cost more if bought individually. With the money you have, you can buy 7 dozen and 5 single balloons, or 75 single balloons. How much is one balloon? How much money do you have?

Week 2 - Multi Step Inequalities

- Solve and graph each inequality
- Word problems - Write an inequality and solve

1. $2x + 4 \geq 24$

2. $\frac{x}{3} - 3 \leq -6$

3. $-3(x + 1) \leq -18$

4. $-4(-4 + x) > 56$

5. $-b - 2 > 8$

6. $-4(3 + x) > -32$

7. $3x - 8 < -x + 4$

8. $5x - 14 \leq 2x + 7$

Write and solve the inequality

9. The cost of a gallon of orange juice is \$3.50. What is the maximum number of containers you can buy for \$15?

10. Three times a number increased by 8 is no more than the number decreased by 4.

11. Two-thirds of a number plus 5 is greater than 12.

12. Kyle works in New York City and makes \$42 per hour. He pays \$75 everyday to commute to work. If he wants to make more than \$260 per day, at least how many hours must he work?

13. Your brother saved \$2,000 for his vacation in California. His plane ticket is \$637. Write and solve an inequality to find how much he can spend for the rest of his expenses.

14. Your local bank offers free checking for accounts with a balance of at least \$500. Suppose you have a balance of \$516.46 and you write a check for \$31.96. How much do you need to deposit to avoid being charged a service fee?

Week 3 - Percents and Proportions

Find the value of the variable

1. $\frac{12}{16} = \frac{18}{x}$

2. $\frac{x-3}{12} = \frac{11}{6}$

Find the missing information (part, whole, or percent)

3. 75 is 125% of what number?

4. 44 is what percent of 80?

5. 79% of 67 is what number?

6. What is 59% of 14?

7. 73 is what percent of \$125?

8. 112 is 76% of what number?

Find each percent change to the nearest whole percent. State if it is an increase or decrease.

9. From 45 feet to 92 feet

10. From 36 inches to 90 inches

11. From 83 hours to 76 hours

12. From 94 miles to 34 miles

Percent word problems.

13. Your food bill at a restaurant totals \$26. There is 6.5% sales tax. What is the total cost of the meal?

14. An item with a wholesale price of \$8.40 is marked up 60%. What is the retail price?

15. A lamp costs \$275 at the store. The store puts the lamp on sale for 15% off. What is the sale price of the lamp?

16. From October to November one year, there was about a 27.4% increase in attendance at Everglades National Park. There were 59,084 visitors in October. About how many people visited in November?

Week 4- Properties of exponents, GCF and LCM

- Using the laws of exponents simplify the expressions. Your answer should only contain positive exponents

1. $x^2 \cdot x^5$

2. $7x^{-4}$

3. $\frac{x^{10}}{x^6}$

4. $x^{-6} x^4$

5. $b^2 \cdot b^{-2}$

6. $3a^3 \cdot 3a^2$

7. $4a^3 b^4 \cdot 4a^4 b^6$

8. $\frac{p^5 q^9}{pq^5}$

9. $m^8 \cdot m^{-6}$

10. $\frac{x^{16}}{x^{10}}$

11. $c^{-1} \cdot c^{-7}$

12. $\frac{16a^2 b^5}{8a^4 b}$

GCF and LCM

13. There are 56 girls and 68 boys in a youth sports league. Each student will be placed on a team. Each team will have an equal number of players and will have the same number of girls. What is the greatest number of teams that can be formed?

14. Students at your school are planning to hand out pep rally packs to support your school's athletic program. The students have 240 bumper stickers, 360 pennants, and 720 pencils. Every pack must have the same contents, and there should be no leftover items. What is the greatest number of pep rally packs that can be made?

15. One traffic light turns red every 45 seconds. Another traffic light turns red every 60 seconds. Both traffic lights just turned red. In how many seconds will they turn red at the same time again?

16. Your class schedule changes on a three-day rotation. Every three days you have math class during the last class period of the day. This week, you have math class the last period on Friday. In how many more school days will you have math class the last period on Friday?

Week 5: Geometry -

Use the Pythagorean Theorem to find the missing length

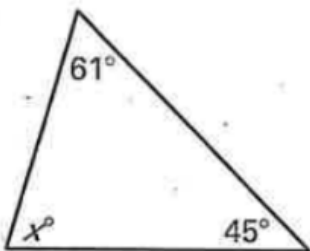
1. $a = 12, b = ?, c = 9$
2. $a = ?, b = 36, c = 39$
3. $a = 7, b = 24, c = ?$
4. A 13 foot ladder is leaning against a building. The bottom of the ladder is 5 feet from the building. How high is the top of the ladder? (draw a picture if it helps)
5. A soccer field is a rectangle 90 meters wide and 120 meters long. The coach asks players to run from one corner to the corner diagonally across the field. How far do the players run?

Circles $C = \pi d$ or $C = 2\pi r$

6. Find the circumference of a circle with a radius of 11 meters.
7. Find the circumference of a circle with a diameter of 21 feet.
8. A ferris wheel has a circumference of about 424 feet. Find its diameter.
9. Find the radius of a circle that has a circumference of 628 cm.

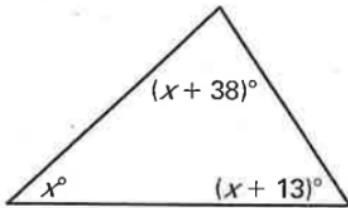
Quadrilaterals and Triangles

10. Find the value of x

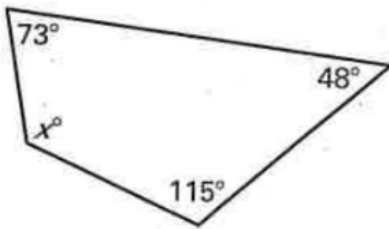


11. Find the value of x and the unknown angle measures.

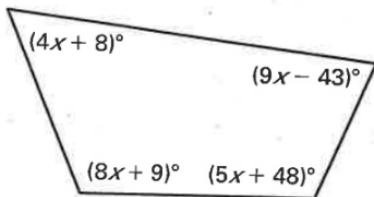
1.



12. Find the value of x



13. Find the value of x and the unknown angle measures



Area and perimeter (rectangles, square, triangles)

14. You have a rectangular yard that has a length of 50 feet and a width of 45 feet.

a. You want to fence your yard. How much fencing do you need?

b. You want to fertilize your yard. Each bag of fertilizer covers 2000 square feet. How many bags should you buy?

15. Find the side length of a square with an area of 81 square feet

16. A triangle has an area of 36 square meters and a height of 8 meters. What is the length of its base?

17. Find the area of a triangle that has a base of 14 inches and a height of 12 inches.

Week 6 - word problems

1. 331 students went on a field trip to Six Flags. Six buses were filled and 7 students traveled in cars. How many students were in each bus?
2. Thor had \$24 to spend on seven pencils. After buying them he had \$10. How much did each pencil cost?
3. Tony bought a magazine for \$5 and four erasers. He spent a total of \$25. How much did each eraser cost?
4. Steve Rogers bought seven boxes. A week later half of all his boxes were destroyed in a flood. There are now only 22 boxes left. How many boxes did Steve start with?
5. Fran is saving money for a color printer that costs \$210. She makes \$6 an hour baby-sitting, and her parents will contribute \$120. How many hours will Fran need to baby-sit to earn enough money for the printer?
6. A Tour de France bicycle race covered 3462 kilometers in 21 days. Riders traveled 3152 kilometers during the first 19 racing days and then traveled 160 kilometers the next day. How long was the ride on the last day?
7. The Great Clock of Westminster rings the bell known as "Big Ben" in London, England. The circumference of the clock face is about 72 feet 3 inches. What is the diameter of the clock face in feet. Round your answer to the nearest hundredth.
8. When you buy a can of soda, you pay for the soda and you pay a \$0.05 recycling deposit. You pay \$4.56 for a 12-pack of soda. How much did each soda cost before the deposit?
9. Fifty more than twice the number of women's rowing teams is equal to eighty-seven less than three times the number of women's rowing teams. Write and solve an equation to find the number of women's rowing teams.
10. You are building a stone wall 13 feet long. You build $4\frac{1}{3}$ feet of wall on Monday and $5\frac{3}{4}$ feet on Tuesday. How much wall do you have left to build?