Summer Math Practice

Dear Students and Families,

As we head into summer, we want to encourage all students to continue practicing their math skills to stay sharp and confident for the upcoming school year. The enclosed summer math packet has been carefully designed to help reinforce key concepts we've learned this year while also preparing students for what's ahead.

Completing this packet will help prevent the "summer slide," where important skills can fade without practice. The goal is not to rush, but to work thoughtfully and consistently. I recommend setting aside a small amount of time each week to complete a portion of the packet. This approach helps build strong habits and reduces stress.

Students should show their work whenever possible and try their best on each problem. It's okay if some questions feel challenging—that's part of learning! Students can review notes from the school year, watch videos, use online resources, or ask for help from a family member.

The completed packet will be due at the beginning of the next school year and may be used as part of a review or assessment. More importantly, it will help students return to school feeling prepared and confident.

Thank you for your support in helping make math a part of your summer routine. I hope you all have a fun, relaxing, and safe summer!

Kindly,
Kaylie Pilla
Middle School Math Teacher

Name _____ Date _____

Rising Algebra Summer Math Work

Find the sum. Write your answer in simplest form.

1. $-\frac{5}{4}+\frac{5}{4}$

2. $-2.7+(-7.5)$

3. The table shows the change in the water level (in centimeters) of a reservoir for three months. Find the total change in the water level for the three-month period.

Month	1	2	3
Change in Water Level	$-1\frac{1}{3}$	$\frac{21}{80}$	$-\frac{11}{80}$

Find the difference. Write your answer in simplest form.

4. $-\frac{4}{3}-\frac{7}{3}$

5. $9.49-(-2.4)$

6. At 1 P.M., the total snowfall is 3 centimeters. At 4 P.M., the total snowfall is 8 centimeters. What is the mean hourly snowfall?

7. Write $\frac{19}{2}$ as a decimal.

Find the product. Write your answer in simplest form.

8. $-\frac{3}{8}\left(-\frac{3}{5}\right)$

9. -6.3×7.2

Find the quotient. Write your answer in simplest form.

10. $\frac{2}{3} \div \left(-\frac{6}{7}\right)$

11. $-6.7 \div 2.5$

13. An online retailer allows customers to rate items. An item receives scores of $2.75, -4.75, -1, 2.25, -4, 0.25, 4.75$, and -2.25. Find the mean score.

14. Simplify $\frac{5}{6}x - 11 - \frac{1}{2}x - 11$.

15. Each person in a group buys a movie ticket, a drink, and a popcorn. How much does the group pay when there are 5 people in the group?

Item	Ticket	Drink	Popcorn
Price	$5.00	$3.75	$3.50

Simplify.

16. $\left(\frac{3}{4}x - 6\right) - \left(\frac{1}{2}x - 8\right)$

17. $\frac{1}{4}(12x + 12) + 8x$

18. Factor $\frac{1}{4}$ out of $\frac{1}{4}x + \frac{3}{4}$.

19. Solve $\frac{x}{8} - \frac{5}{2} = \frac{5}{2}$.

20. You install 404 feet of fencing along the perimeter of a rectangular yard. The width of the yard is 100 feet. What is the length of the yard?

Graph the solution of the inequality.

22. $x - 4 < 2$

23. $3x < 21$

24. $\frac{x}{4} + 2 < 1$

26. Tell whether 25 : 2 and 3 : 8 form a proportion.

30. A scale drawing of a square has a side length of 2 centimeters. The drawing has a scale of 1 cm : 8 ft. Find the actual perimeter and area of the square.

31. Write 76% as a decimal.

32. Write 0.51 as a percent.

33. You estimate that there are 66 marbles in a jar. The actual amount is 89 marbles. Find the percent error. Round to the nearest tenth of a percent.

34. Find the selling price of a $50 item after a 50% markup.

35. You deposit $300 in a savings account. The account earns 1% simple interest per year. What is the interest earned after 3 years? the balance after 3 years?

36. The probability of an event is $\frac{1}{4}$. Describe the likelihood of the event.

38. There are 11 green marbles and 12 orange marbles in a bag. You randomly choose one of the marbles. What is the probability of choosing a green marble?

39. The table shows the results of rolling a number cube 200 times. How does the experimental probability of rolling an odd number compare with the theoretical probability?

Number Rolled	1	2	3	4	5	6
Times Rolled	38	25	30	41	34	32

40. Find the total number of possible outcomes when you select one color of wallpaper and one color of carpet.

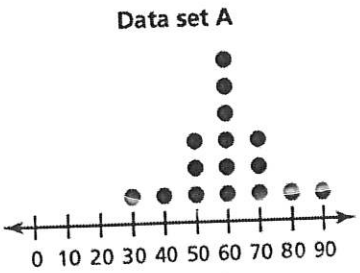
Wallpaper	Purple, Blue, Red, Green
Carpet	Purple, Red, Yellow, Blue, Green

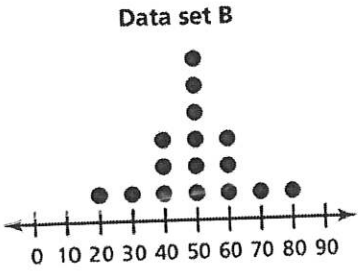
41. You roll a six-sided number cube and flip a coin. What is the probability of rolling a number greater than 5 and flipping heads?

43. You want to estimate the number of students in your school who support extra funding for the music club. You survey every sixth student who enters the school. Determine whether the sample is *biased* or *unbiased*.

44. You ask 200 randomly chosen students to name their favorite ice cream flavor. Of the students you asked, 49 said vanilla, 59 said chocolate, 56 said strawberry, and 36 said chocolate chip. There are 1800 students in the school. Estimate the number of students in the school whose favorite ice cream flavor is chocolate.

45. The dot plots show two data sets. Express the difference in the measures of center of data set A and data set B as a multiple of the measure of variation.





46. The tables show random samples of the ages of viewers of two different movies.

Movie A				
31	22	25	26	24
29	23	29	27	30
29	26	30	28	28
28	28	27	32	26
27	25	27	26	27
29	27	25	24	25

Movie B				
42	43	40	41	43
40	44	39	39	41
38	37	38	39	45
46	41	42	39	41
41	42	42	41	43
40	40	43	44	36

a. Describe the shapes of the distributions of the viewer ages for each movie.

b. Find the appropriate measures of center and variation for each distribution.

c. Compare the ages of viewers of the two movies.

47. Find the circumference of a circle with a radius of 8 kilometers. Use 3.14 for π.

48. Find the area of a circle with a diameter of 26 inches. Use 3.14 for π.

51. Find the surface area of a cylinder with a radius of 3 centimeters and a height of 4.2 centimeters. Round your answer to the nearest tenth.

Answers

Post-Course Test

1. 0

2. -10.2

3. $-1\frac{5}{24}$ cm

4. $-\frac{11}{3}$

5. 11.89

6. $\frac{5}{3}$ cm/h

7. 9.5

8. $\frac{9}{40}$

9. -45.36

10. $-\frac{7}{9}$

11. -2.68

13. -0.25

14. $\frac{1}{3}x - 22$

15. \$61.25

16. $\frac{1}{4}x + 2$

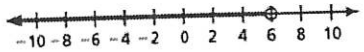
17. $11x + 3$

18. $\frac{1}{4}(x + 3)$

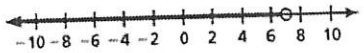
19. $x = 40$

20. 102 ft

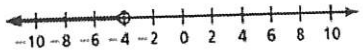
22.



23.



24.



26. no

30. perimeter: 64 ft; area: 256 ft^2

31. 0.76

32. 51%

33. 25.8%

34. \$75

35. \$9; \$309

36. unlikely

38. $\frac{11}{23}$

39. theoretical: $\frac{1}{2}$, or 50%; experimental: $\frac{102}{200}$, or 51%; The experimental probability is close to the theoretical probability.

40. 20

41. $\frac{1}{12}$ or $8.\overline{3}\%$

43. unbiased

44. 531 students

45. The difference in the means is 1 times the MAD.

46. **a.** Movie A: symmetric; Movie B: symmetric

b. Movie A: mean = 27, MAD = 1.8

Movie B: mean = 41, MAD = 1.8

c. The ages of viewers of Movie A are generally less than the ages of viewers for Movie B.

47. 50.24 km

48. 530.66 in.^{2}

51. 135.6 cm

Summer Math Tracker

Directions:

- Watch video lessons by scanning the QR codes.
- Take notes and complete the provided practice worksheets.
- Check off that you have completed the video and the work for that topic.
- Answer keys to check you work are in the Google Folder →

Mr. J's YouTube Math Channel & Khan Academy Search these resources for different middle school math topics.	Lesson 1: Circles & Circumference ☑ Completed: ☐ Yes	
Lesson 2: Area of Circles ☑ Completed: ☐ Yes	Lesson 3: Similar Figures ☑ Completed: ☐ Yes	Lesson 4: Perimeter & Area of Similar Figures ☑ Completed: ☐ Yes
Lesson 5: Perimeter & Area of Composite Figures ☑ Completed: ☐ Yes	Lesson 6: Surface Area of Cylinders ☑ Completed: ☐ Yes	Lesson 7: Volume of Cylinders ☑ Completed: ☐ Yes

LESSON: _____

NOTES:

EX. 1:	EX. 2:

INDEPENDENT EXAMPLE:

QUESTIONS I STILL HAVE:

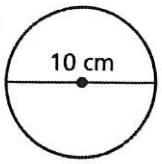
RATE MY CONFIDENCE:

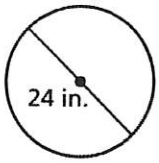
1 I don't understand yet.	2 I can do it with help.	3 I can do it on my own.	4 I can teach someone.

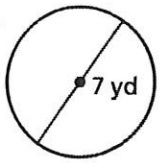
Name _____ Date _____

Circles & Circumference Practice

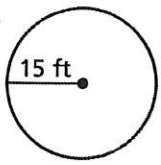
Find the radius of the circle.

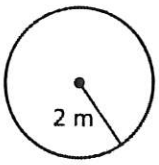
1. 

2. 

3. 

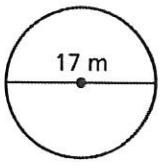
Find the diameter of the circle.

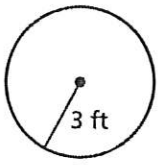
4. 

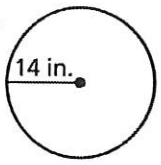
5. 

6. 

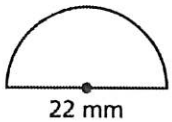
Find the circumference of the object. Use 3.14 for π.

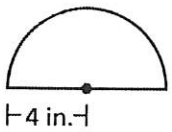
7. 

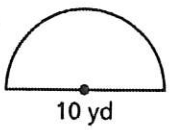
8. 

9. 

Find the perimeter of the semicircular region.

10. 

11. 

12. 

13. A circular ink spot has a circumference of 25.12 millimeters. A minute later, it has a circumference of 75.63 millimeters. **Find the diameter of the ink spot each minute.**

LESSON: _____

NOTES:

EX. 1:	EX. 2:

INDEPENDENT EXAMPLE:

QUESTIONS I STILL HAVE:

RATE MY CONFIDENCE:

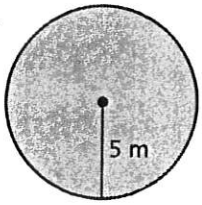
1 I don't understand yet.	2 I can do it with help.	3 I can do it on my own.	4 I can teach someone.

Name _____ Date _____

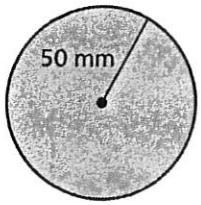
Area of Circles Practice

Find the area of the circle. Use 3.14 for π.

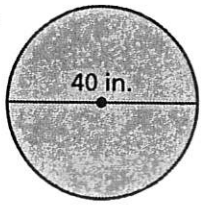
1.



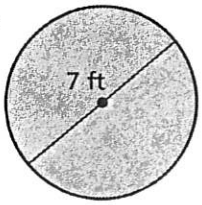
2.



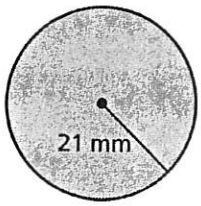
3.



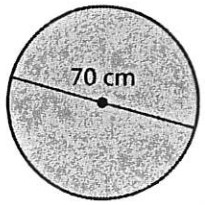
4.



5.

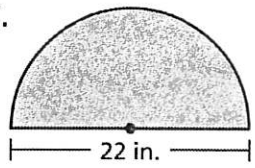


6.

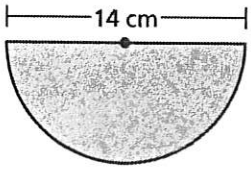


Find the area of the semicircle.

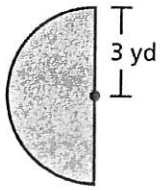
7.



8.



9.



10. The circumference of a circular table top is 20π centimeters. What is the area of the table?

LESSON: _____

NOTES:

EX. 1:	EX. 2:

INDEPENDENT EXAMPLE:

QUESTIONS I STILL HAVE:

RATE MY CONFIDENCE:

1 I don't understand yet.

2 I can do it with help.

3 I can do it on my own.

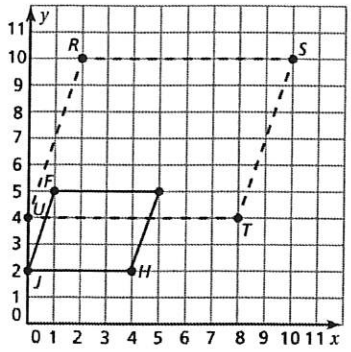
4 I can teach someone.

Name _____ Date _____

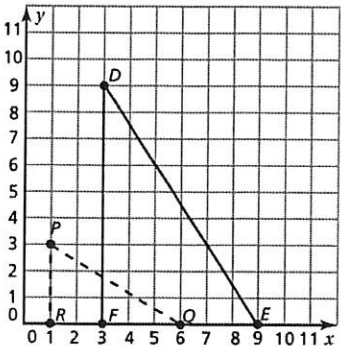
Similar Figures Practice

Determine whether the figures are similar. Explain your reasoning.

1.

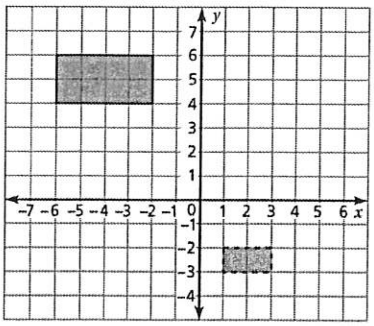


2.

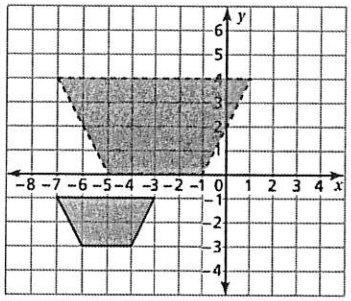


The dashed figure is similar to the solid figure. Describe a similarity transformation between the figures.

4.



5.



6. A painting in the shape of a rectangle has side lengths of 30 inches and 21 inches. You buy a print of the painting with side lengths of 10 inches and 7 inches. Is the print similar to the original painting? Explain your reasoning.

LESSON: _____

NOTES:

EX. 1:	EX. 2:

INDEPENDENT EXAMPLE:

QUESTIONS I STILL HAVE:

RATE MY CONFIDENCE:

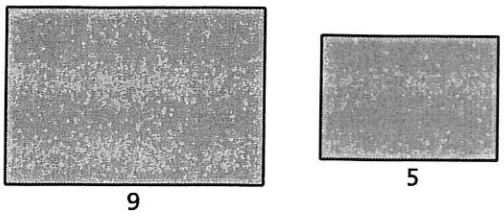
1 I don't understand yet.	2 I can do it with help.	3 I can do it on my own.	4 I can teach someone.

Name _____ Date _____

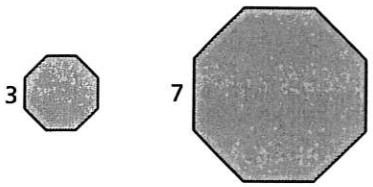
Perimeter & Area of Similar Figures Practice

Find the values of the ratios (small to large) of the perimeters and areas of the similar figures.

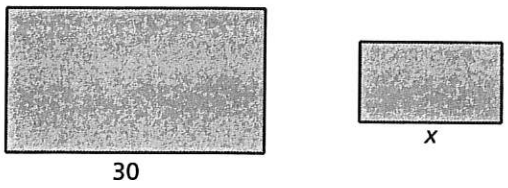
1.



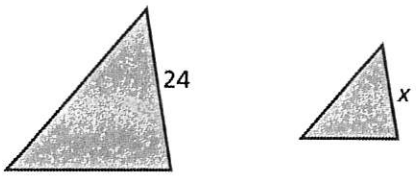
2.



3. The figures are similar. The ratio of the perimeters is 9 : 5. Find x.



4. The figures are similar. The ratio of the perimeters is 12 : 7. Find x.



LESSON: _____

NOTES:

EX. 1:	EX. 2:

INDEPENDENT EXAMPLE:

QUESTIONS I STILL HAVE:

RATE MY CONFIDENCE:

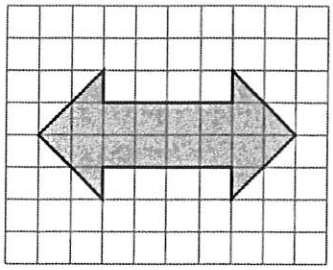
1 I don't understand yet.	2 I can do it with help.	3 I can do it on my own.	4 I can teach someone.

Name _____ Date _____

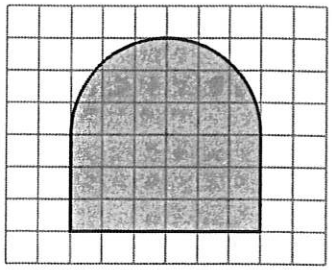
Perimeter & Area of Composite Figures Practice

Estimate the perimeter and the area of the shaded figure.

1.

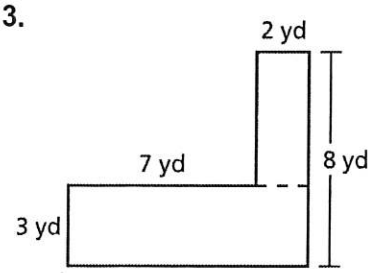


2.

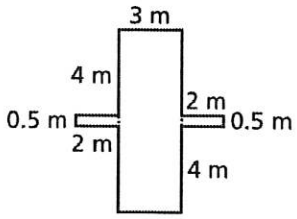


Find the perimeter and the area of the figure.

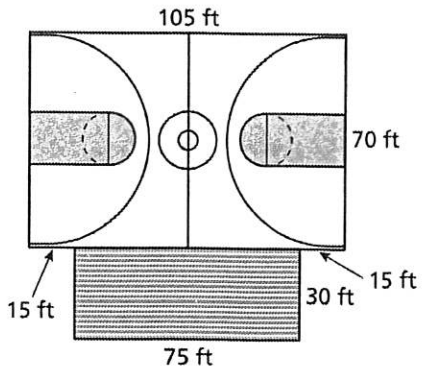
3.



4.



5. The dimensions of a new city park basketball court are shown at the right. A fence is to be built around the court and bleachers. The fence costs $8.99 per foot. How much will it cost to install the fence?



LESSON: _____

NOTES:

EX. 1:	EX. 2:

INDEPENDENT EXAMPLE:

QUESTIONS I STILL HAVE:

RATE MY CONFIDENCE:

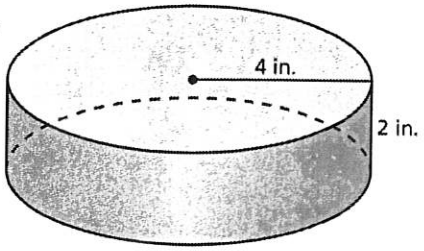
1 I don't understand yet.	2 I can do it with help.	3 I can do it on my own.	4 I can teach someone.

Name _____ Date _____

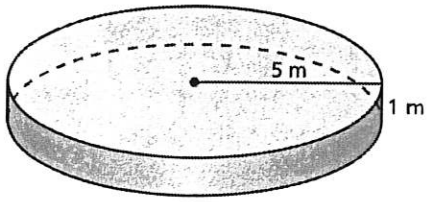
Surface Area of Cylinders Practice

Find the surface area of the cylinder. Round your answer to the nearest tenth if necessary.

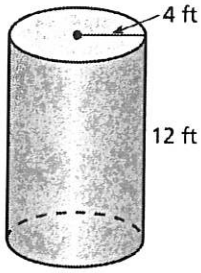
1.



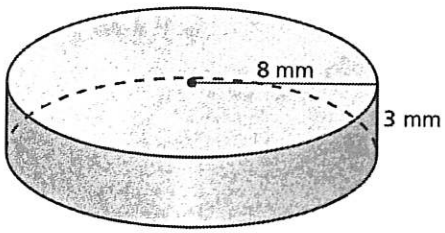
2.



3.



4.



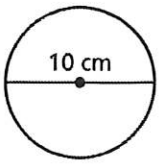
5. A deep dish pizza has a radius of 6 inches and a height of 1 inch. Find the surface area of the pizza. Round your answer to the nearest tenth.

Name _____ Date _____ Score _____/10

Geometry Check (Rising into Algebra)

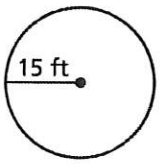
Find the radius of the circle.

1.



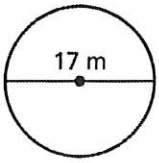
Find the diameter of the circle.

2.

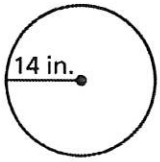


Find the circumference of the object. Use 3.14 for π. Round to the nearest hundredth.

3.

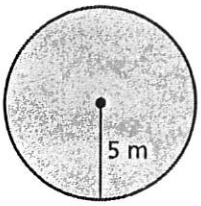


4.

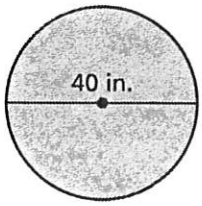


Find the area of the circle. Use 3.14 for π. Round to the nearest <u>hundreth</u>.

5.



6.



7. The dashed figure is similar to the solid figure. Describe a similarity between the figures. Explain your thinking.

