

June 2025

Dear Incoming Seventh Grader,

Here is your summer packet to help you retain your math skills over the summer. This packet covers topics we did this year and will prepare you for next year. Please show all work when applicable. The packet is due on Friday, August 29, 2025. If you have any questions please email me at rkraus@stmarybethelct.org

Have a wonderful summer. See you in August.

Sincerely,

A handwritten signature in black ink that reads "Mrs. Kraus". The script is cursive and fluid.

Mrs. Kraus

Adding/Subtracting Integers

Find each sum.*See Adding + subtracting notes*

1) $(-12) + 7$

2) $(-10) + (-7)$

3) $(-6) + 12$

4) $8 + 7$

5) $3 + 4$

6) $(-45) + 9$

7) $(-1) + (-46)$

8) $(-30) + 10$

9) $(-34) + 50$

10) $38 + (-5)$

Find each difference.

11) $2 - (-2)$

12) $(-1) - 10$

13) $8 - 7$

14) $(-8) - (-6)$

$15) 11 - 4$

$16) 48 - (-31)$

$17) 18 - 41$

$18) (-38) - 30$

$19) (-1) - (-3)$

$20) (-1) - (-40)$

Evaluate each expression.

$21) (-10) - 47$

$22) (-29) - 29$

$23) 13 + (-29)$

$24) 38 + 22$

$25) (-32) - 44$

$26) (-12) + (-11)$

$27) 2 + 15 + 4$

$28) 16 + (-13) + 5$

$29) 2 - (-9) - 8$

$30) 10 + 3 - (-8)$

Multiplying Integers

Find each product.

See notes on ^{Date} multiplying integers ^{Period}

1) 6×-4

2) 4×2

3) 3×-4

4) -6×4

5) 5×-4

6) -3×4

7) -5×6

8) -2×-1

9) -8×-2

10) 11×12

11) -7×5

12) 9×-6

13) 10×5

14) 9×2

15) -12×7

16) 8×-12

17) $9 \times 10 \times 6$

18) $-6 \times -10 \times -8$

19) $7 \times 9 \times 7$

20) $6 \times 6 \times -2$

21) $-5 \times -4 \times -10$

22) $9 \times 9 \times -5$

23) $8 \times 3 \times 8$

24) $7 \times 5 \times -5$

Dividing Integers

Find each quotient.

See notes Dividing Integers for Rules

1) $35 \div -5$

2) $-8 \div 4$

3) $-24 \div 4$

4) $-8 \div -2$

5) $8 \div 4$

6) $-24 \div 8$

7) $-21 \div 7$

8) $6 \div -6$

9) $-132 \div -11$

10) $-60 \div -15$

11) $-52 \div -4$

12) $60 \div 12$

$$13) 6 \div -1$$

$$14) 75 \div 15$$

$$15) 65 \div -13$$

$$16) 12 \div 4$$

$$17) -168 \div -12$$

$$18) -8 \div 2$$

$$19) \frac{-105}{7}$$

$$20) \frac{-4}{-1}$$

$$21) \frac{-10}{-2}$$

$$22) \frac{-144}{12}$$

$$23) \frac{24}{-12}$$

$$24) \frac{60}{-15}$$

The Distributive Property

Simplify each expression.

1) $6(1 - 5m)$

$(6)(1) + (6)(-5m)$

$6 + -30m$

$6 - 30m$ or $-30m + 6$

2) $-2(1 - 5v)$ $-2 + 10v$

or $10v - 2$

write the
variable term
first then
the constant

3) $3(4 + 3r)$

4) $3(6r + 8)$

5) $4(8n + 2)$

6) $-(-2 - n)$

7) $-6(7k + 11)$

8) $-3(7n + 1)$

9) $-6(1 + 11b)$

10) $-10(a - 5)$

11) $-3(1 + 2v)$

12) $-4(3x + 2)$

13) $(3 - 7k) \cdot -2$

14) $-20(8x + 20)$

15) $(7 + 19b) \cdot -15$

16) $(x + 1) \cdot 14$

One-Step Equations With Integers

Solve each equation.

$$1) v - 10 = -9$$

$$+10 = +10$$

$$v = 1$$

$$2) v - 10 = -3$$

$$3) x - 3 = 4$$

$$4) \frac{x}{5} = 2$$

$$\left(\cancel{5}\right)\left(\frac{x}{\cancel{5}}\right) = (2)(5)$$

$$x = 10$$

$$5) 22 = -11k$$

$$6) -13m = -377$$

$$7) b - 7 = -1$$

$$8) -8 = p - 13$$

$$9) -40 = -5p$$

$$10) 418 = -22a$$

$$11) \frac{a}{29} = 5$$

$$12) -2 = \frac{m}{16}$$

$$16(-2) = \left(\frac{m}{\cancel{16}}\right)\cancel{16}$$

$$-32 = m$$

$$13) x - 11 = 16$$

$$14) -10 = x - 21$$

$$15) 20 = \frac{n}{4}$$

$$16) n - 29 = -53$$

$$17) -19 = b - 6$$

$$18) -8 = -16 + n$$

$$19) -9 + x = -26$$

$$20) 29 + n = 13$$

$$21) 21 = \frac{x}{18}$$

$$22) k + 1 = -27$$

$$23) 6 = m - 16$$

$$24) 5 = v + 29$$

$$25) 168 = -84n$$

$$26) 41k = -2747$$

$$27) \frac{x}{15} = 11$$

$$28) -71 = \frac{x}{64}$$

Fractions, Decimals, and Percents

Write each as a decimal. Round to the thousandths place.

- 1) 90% *move decimal 2 places to the left* 2) 30%

$$90\% = 90 = \textcircled{.90}$$

3) 115.9%

4) 9%

5) 7%

6) 65%

7) 0.3%

8) 445%

Write each as a percent. Round to the nearest tenth of a percent.

9) 0.452

10) 0.006

$$.452 = \boxed{45.2\%}$$

11) 0.002

12) 0.05

13) 4.78

14) 0.1

15) 3.63

16) 0.03

Write each as a fraction. *and reduce when possible*

17) $25\% = \frac{25}{100} = \frac{25 \div 25}{100 \div 25} = \frac{1}{4}$

18) 70%

19) 93%

20) 58%

21) 50%

22) $66.\overline{6}\%$

23) 20%

24) 80%

25) 71%

26) 30%

Write each as a percent. Use repeating decimals when necessary.

27) $\frac{1}{2} = .50$ or 50%

$$\begin{array}{r} 2 \overline{) 1.0} \\ \underline{-10} \\ 0 \end{array}$$

28) $\frac{1}{8}$

Divide denominator into numerator and get a decimal. Then multiply by 100, move decimal point 2 places to the right

29) $\frac{2}{3}$

30) $\frac{1}{100}$

31) $2\frac{1}{10}$

32) $\frac{3}{8}$

33) $\frac{1}{10}$

34) $\frac{87}{100}$

Area of $\Delta = \frac{bh}{2}$, Perimeter - add up all the sides

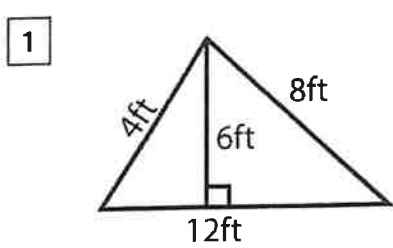
Name: Area = units², Perimeter = units



Score: _____ Date: _____

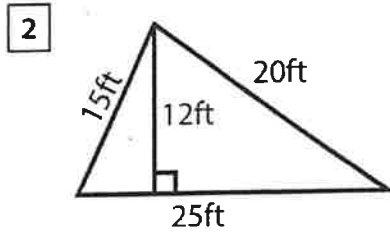
Area and Perimeter of Triangles Worksheet

Find the area and perimeter of each given triangle



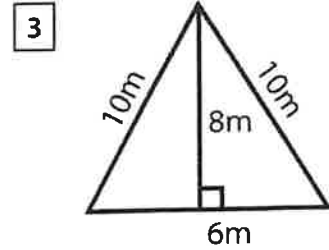
Area = $\frac{(12)(6)}{2} = 36 \text{ ft}^2$

Perimeter = $4 + 8 + 12 = 24 \text{ ft}$



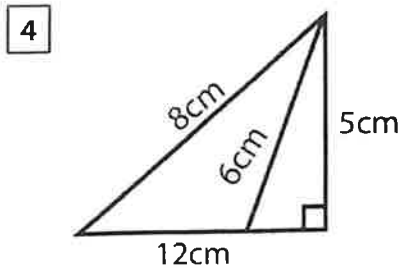
Area = _____

Perimeter = _____



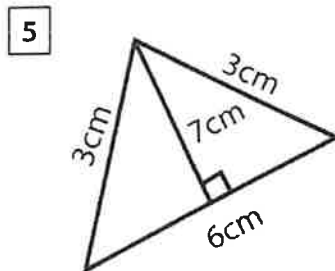
Area = _____

Perimeter = _____



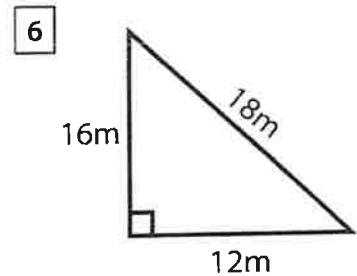
Area = _____

Perimeter = _____



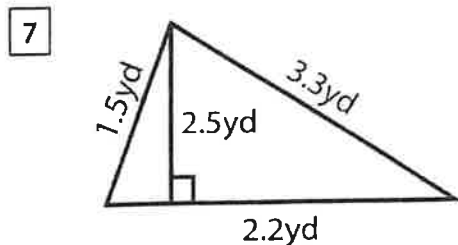
Area = _____

Perimeter = _____



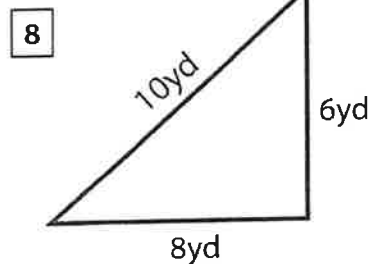
Area = _____

Perimeter = _____



Area = _____

Perimeter = _____



Area = _____

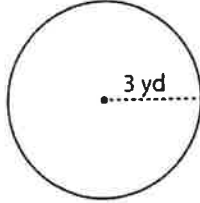
Perimeter = _____

Name : _____

Radius: ES1

Circle - Circumference

Example :



Circumference of a circle = $2\pi r$

Radius (r) = 3 yd

Circumference = $2\pi r$

= $2 \times \pi \times 3$

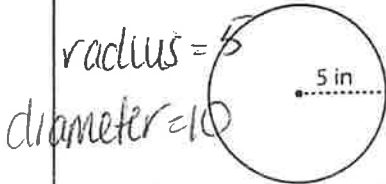
Circumference = 6π yd

or $C = \pi d$
use 3.14 for π

Find the circumference of each circle in terms of π .

*Circumference = perimeter of circle
perimeter labeled in units given*

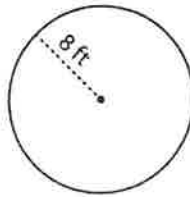
1)



$C = \pi d = 3.14 \times 10 = 31.4$

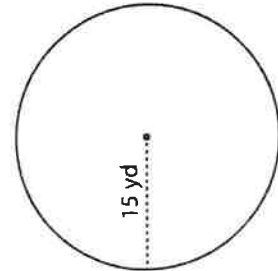
Circumference = 31.4 in

2)



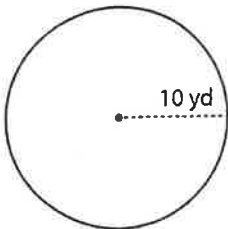
Circumference =

3)



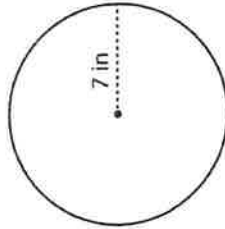
Circumference =

4)



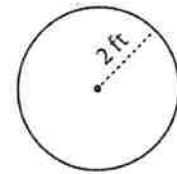
Circumference =

5)



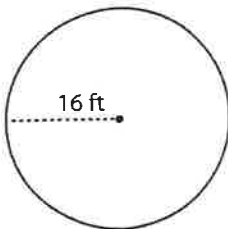
Circumference =

6)



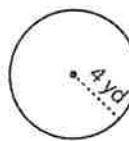
Circumference =

7)



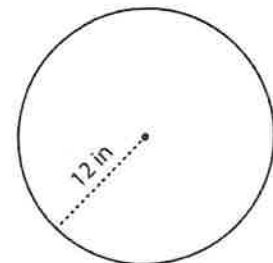
Circumference =

8)



Circumference =

9)



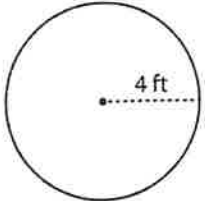
Circumference =

Name : _____

Radius: ES1

Circle - Area

Example:



Area of a circle = πr^2

Radius (r) = 4 ft

Area = πr^2

= $\pi \times 4 \times 4$

Area = $16\pi \text{ ft}^2$

A = πr^2 or $\pi r \cdot r$

use 3.14 for π

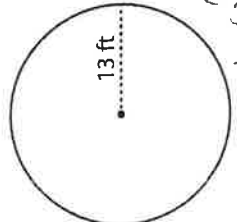
area always labeled in units²

Find the area of each circle in terms of π .

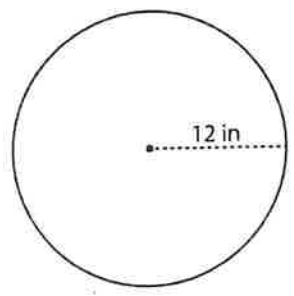
1) $A = (3.14)(13)(13)$ 2)

= 530.66

= 530.7

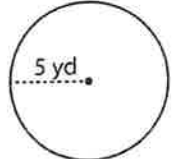


Area = 530.7 ft^2



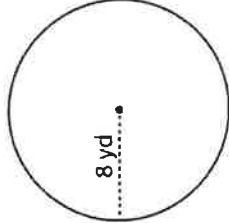
Area =

3)



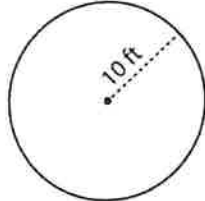
Area =

4)



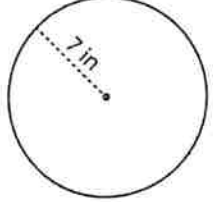
Area =

5)



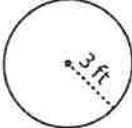
Area =

6)



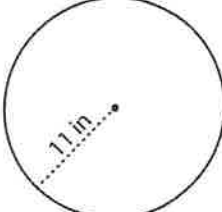
Area =

7)



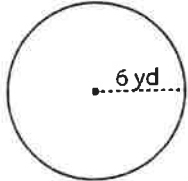
Area =

8)



Area =

9)



Area =

Name: _____

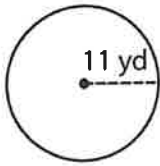
Area rectangle = $b \times h$
Area triangle = $\frac{b \times h}{2}$
Area circle = πr^2

Area - Mixed Shapes

Area trapezoid = $\frac{h(b_1 + b_2)}{2}$

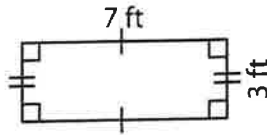
Find the area of each shape. (Use $\pi = 3.14$)

1)



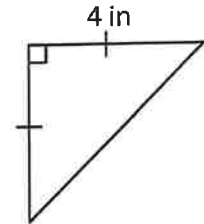
Area = _____

2)



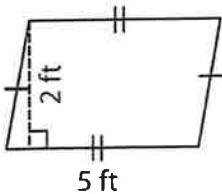
Area = _____

3)



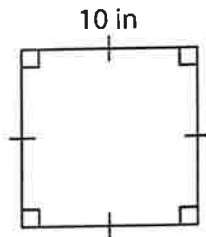
Area = _____

4)



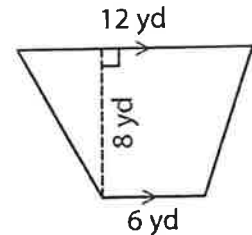
Area = _____

5)



Area = _____

6)



Area = _____

7) If the side of a square measures 23 feet, determine the area of the square.

8) A rectangle is 20 inches long and 13 inches wide. Find the area of the rectangle.

Adding and Subtracting Integers -Notes

When adding 2 integers which have the same sign (both negative or both positive)

1. Add the numbers only first (take the sum)
2. Copy over the sign

Same Sign = Sum and carry over the sign

$-2 + -3 = 2 + 3 = 5$, then carry over the negative sign, final answer = -5

Or think of it in terms of \$, if you lost \$2 AND you lost \$3, you lost a total of \$5, or you are down \$5 Final Answer = -5 .

$-3 - 4 = -7$, this is the same as $-3 + -4 = -7$

$-10 - 5 = -15$, $= -10 + -5 = -15$

$-6 - (3) = -6 - 3 = -6 + -3 = -9$

When you have two negative numbers together change both signs to positive. (**Leave Change Opposite-Leave** the first term, **Change** the subtraction sign to addition, take the **Opposite** of the last number)

$6 - - 3 = 6 + +3 = 9$ leave the 6, change the subtraction to addition sign, take the opposite of -3 , which is 3.

$4 - (-2) = 4 + + 2 = 6$

$-7 - - 3 = -7 + +3 = -7 + 3 = -4$

Adding Integers with Different Signs

Ignore the signs initially, take the difference between the numbers only (higher # - lower#), then go back to the original addition problem and take the sign of the higher number.

Example 1.

$-5 + 3$, just look at the numbers only, subtract $5 - 3 = 2$. 5 is the higher number in the subtraction problem, so take the sign of the number 5 in the original addition problem and copy over to your answer $-5 + 3 = -2$

Example 2.

- $17 + 13 = ?$

1. 17

-13

4

2. 17 is the higher number in the subtraction problem, thus take the sign of 17 in the original addition problem. it's sign in the original problem is a negative, thus copy the negative sign to you answer.

3. The answer is now -4 not 4.

Example 3

$-8 + 5 = -3$

Multiplying and Dividing Integers Notes

Multiply/Divide the numbers and follow the sign rules below:

When multiplying or dividing integers with the same sign, the answer is a positive number.

- \times - = +, negative times a negative is a positive number.
- + \times + = +, positive times a positive is a positive number.
- \div - = +, negative divided by a negative is a positive.
- + \div + = +, positive divided by a positive is a positive.

When the numbers are opposite signs then the answer is a negative number, no matter if the operation is multiplication or division.

- \times + = -, negative times a positive is a negative number.
- + \times - = -, positive times a negative is a negative number.
- + \div - = -, positive divided by a negative is a negative number.
- \div + = -, negative divided by a positive is a negative number.

Remember () means multiply. $4(3) = 4 \times 3 = 12$

So $-4(3) = -4 \times 3 = -12$.

Additionally \bullet means multiply as well $4 \bullet 3 = 4 \times 3 = 12$

$$4 \bullet -3 = 4 \times -3 = -12$$