8th Grade Math Summer Packet 2025

This packet provides practice on pre-requisite skills needed for Math 8 concepts, as well as a preview for Unit 1 of 8th Grade Math.

INTEGERS

Add.

1. $(-3) + (-7) =$ _____
2. $(-30) + 9 =$ _____
3. $42 + (-45) =$ _____
4. $(-55) + (-7) =$ _____
5. $3 + (-6) + 12 =$ _____
6. $(-9) + (-6) + (-15) =$ _____

Subtract.

1. $15 - (-3) =$ _____
2. $(-7) - 1 =$ _____
3. $(-14) - (-6) =$ _____
4. $3 - (-4) =$ _____
5. $(-1) - 6 - (-9) =$ _____
6. $21 - (-12) - 12 =$ _____

Multiply or divide.

1. $(-4) \bullet (-10) =$ _____
2. $86 \bullet (-6) =$ _____
3. $(-52) \div 13 =$ _____
4. $164 \div (-4) =$ _____
5. $(-5) \bullet (-13) \bullet (-4) =$ _____
6. $204 \div (-3) \bullet (-7) =$ _____

Find each absolute value.

1. $|-15| =$ _____
2. $|11 - 14| =$ _____
3. $|-5{,}187| =$ _____
4. $|(-43) \bullet (-8)| =$ _____

Challenge Problem!

Evaluate.

1. $[2 + (-4)] + 5 - [(-11) \bullet (-2)] - (-7) =$ _____

NUMBER PATTERNS, EXPRESSIONS, & EQUATIONS

Write the next three terms of the pattern.

1. 100, 91, 82, 73, … _____, _____, _____

2. 2, 9, 16, 23, … _____, _____, _____

3. 1, 1, 2, 3, 5, 8, … _____, _____, _____

Solve.

1. $x - 7 = 86$

2. $7 + 3y = 22$

3. $5b = 60$

4. $\frac{f}{6} = 30$

5. $7w + 3 = 52$

6. $5x - 7 = 118$

Evaluate for the given value.

1. $4x - 5$, for $x = 7$

_____

2. $(a \div b)^2 + (a \bullet b)$, for $a = 77$ & $b = 11$

_____

3. $\frac{50 - x}{y - 3}$, for $x = 5$ & $y = 6$

_____

4. $(b - c)^2 \bullet (b + c)$, for $b = 9$ & $c = 3$

_____

Evaluate each expression.

1. $(2+1)^4 \div 9 - 4 =$ _____

2. $(5 \bullet 3 \bullet 2) - (63 \div 7) =$ _____

3. $\frac{3}{4} \bullet 4 + 6^2 \div 9 =$ _____

4. $\left[(9-7)^5 + 17\right] \div (7) =$ _____

Translate each statement into an expression or equation.

1. Five more than a number x. _____

2. A number x less seventeen. _____

3. The product of sixty and a number x is thirty. _____

Find the GCF or LCM for each.

1. The GCF of 24 & 32 is _____.

2. The LCM of 12 & 16 is _____.

3. The GCF of 18, 30, & 60 is _____.

4. The LCM of 3, 12, & 15 is _____.

Write the prime factorization of each number.

1. 54 = _____

2. 57 = _____

FRACTIONS/DECIMALS/PERCENTS

Use >, <, or = to compare each pair of numbers.

1. $\frac{7}{8}$ _____ 0.82

2. -0.63 _____ $-\frac{5}{8}$

3. $1\frac{4}{5}$ _____ $\frac{21}{12}$

4. $-3\frac{1}{4}$ _____ $-3\frac{6}{25}$

5. $\frac{15}{27}$ _____ $\frac{16}{24}$

6. $\frac{8}{25}$ _____ 0.32

Write each percent as a decimal and as a fraction/mixed number in lowest terms.

		Decimal	Fraction/Mixed Number
1.	82%	_____	_____
2.	60%	_____	_____
3.	8%	_____	_____
4.	135%	_____	_____

Order each group of numbers from least to greatest. Write your answer on the line.

1. $0.7, 0.\overline{7}, \frac{3}{4}, \frac{7}{8}$

2. $-2\frac{2}{3}, -2\frac{2}{5}, -2.1, -2.25$

_____ _____

Challenge Problem!

Complete the statement using >, <, or =.

1. 25% of 80 _____ 125% of 12

FRACTION OPERATIONS

Add, subtract, multiply, or divide. All answers must be in fraction/mixed number form.

1. $7\frac{3}{11} - 4\frac{13}{33} =$ _____

2. $5\frac{9}{20} + 1\frac{3}{5} =$ _____

3. $7\frac{3}{5} - \frac{4}{5} =$ _____

4. $\left(\frac{3}{8}\right) + \left(\frac{9}{20}\right) =$ _____

5. $4 \bullet \frac{3}{5} =$ _____

6. $\frac{3}{8} \div \frac{7}{12} =$ _____

7. $\left(6\frac{3}{16}\right) \bullet \left(3\frac{1}{5}\right) =$ _____

8. $15 \div \left(4\frac{1}{6}\right) =$ _____

DECIMAL OPERATIONS

Add, subtract, multiply, or divide. All answers must be in decimal form.

1. $0.1465 + 0.28 =$ _____

2. $13.87 - 6.8412 =$ _____

3. $(7.039) \bullet (0.04) =$ _____

4. $(4.844) \div (0.56) =$ _____

5. $11.57 - 9.283 =$ _____

6. $(1.4678) + (21.564) =$ _____

7. $(9.767) \bullet (4.089) =$ _____

8. $(37.41) \div (4.3) =$ _____

GEOMETRY & MEASUREMENT

Write your answer on the line.

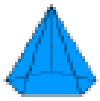
1. What is the approximate measure of this angle? _____

2. What kind of angle is this? _____

3. If $\angle 1$ measures 56°, what is its complement? _____

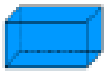
4. If $\angle 1$ measures 56°, what is its supplement? _____

5. How many faces does this figure have? _____



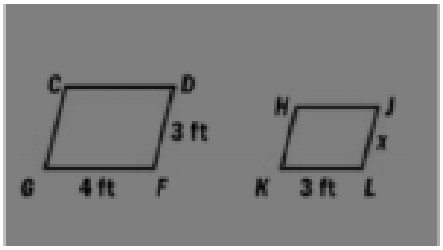
6. How many vertices does this figure have? _____

7. How many edges does this figure have? _____



In the following diagram, CDFG ~ HJLK. Use this information to find the value of x.

1. x = _____



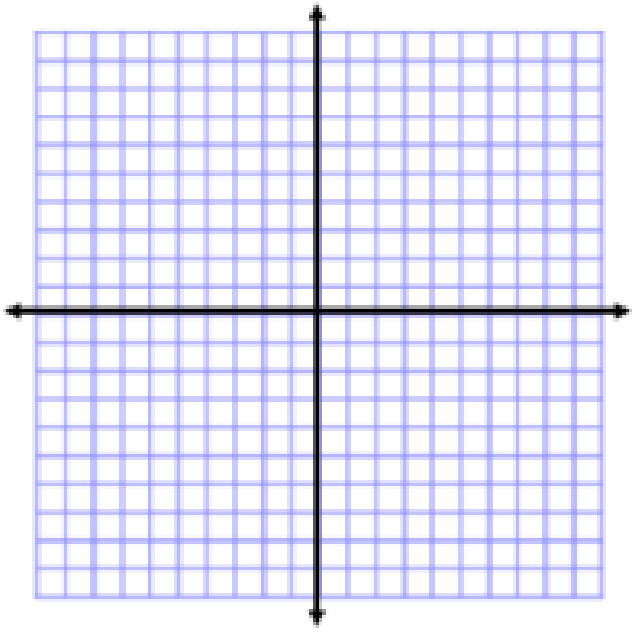
Name the quadrant or place in which each point lies.

1. (-4, -2)_____ 2. (0, -7)_____ 3. (0,0)_____

4. (6, -9)_____ 5. (3, 5)_____ 6. (8, 0)_____

Graph and label (with letters) these figures on the same plane.

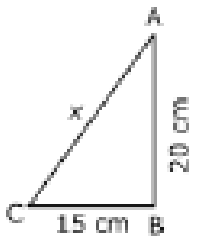
1. PQRS: P(-2,4), Q(-5,4), R(-8,0), S(-2,0)
   TUVW: T(4,8), U(8,8), V(8,0), W(4,0)
   ABC: A(0,-3), B(0,-7), C(-6,-7)



Challenge Problem!

Find the length of the missing side of this right triangle.

1.



RATIOS, PROPORTIONS, & PERCENTS

Find the unit rate.

1. $\frac{\$56}{8lbs}$ = _____

2. 7 phone calls in 2 hours = _____

Write the ratio as a fraction in simplest form.

1. 65 to 130 = _____

2. $\frac{18}{63}$ = _____

Solve each proportion by cross-multiplying.

1. $\frac{20}{x} = \frac{16}{5}$

2. $\frac{y}{22} = \frac{11}{5.5}$

3. $\frac{3.6}{3} = \frac{b}{14.4}$

Find each value.

1. 40% of 25 is what number? _____

2. 18 is 75% of what number? _____

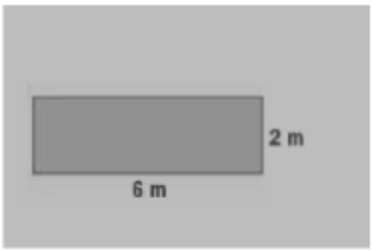
3. What percent of 600 is 180? _____

4. The cost of a meal is $35.27 and you leave an 18% tip. What is the total cost of the meal? Round to the nearest cent. _____

PERIMETER, AREA, & VOLUME

Find the perimeter of each polygon.

1.



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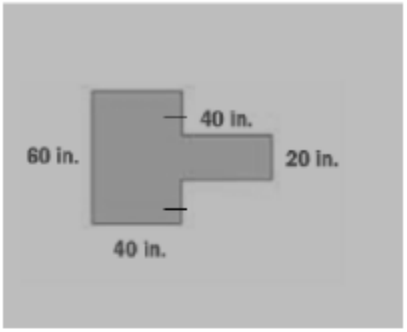
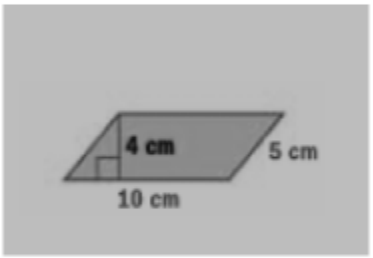


Find the area of each polygon.

1.



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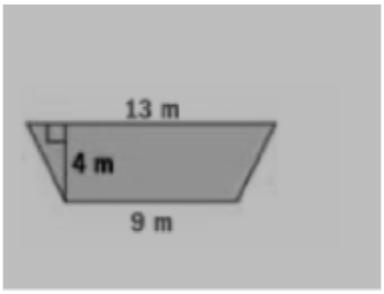
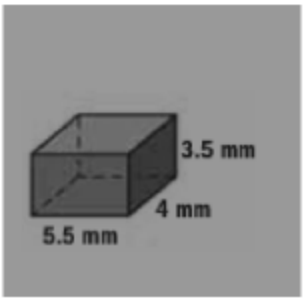


Find the volume of each figure.

1.



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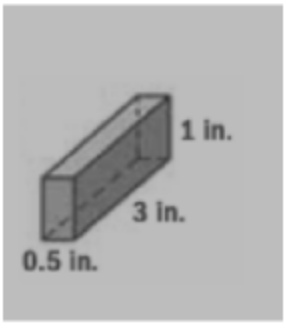


INTEGERS

Add.

1. $(-3) + (-7) =$ -10
2. $(-30) + 9 =$ -21
3. $42 + (-45) =$ -3
4. $(-55) + (-7) =$ -62
5. $3 + (-6) + 12 =$ 9
   $-3 + 12$
6. $(-9) + (-6) + (-15) =$ -30

Subtract.

1. $15 - (-3) =$ 18
2. $(-7) - 1 =$ -8
3. $(-14) - (-6) =$ -8
4. $3 - (-4) =$ 7
5. $(-1) - 6 - (-9) =$ 2
6. $21 - (-12) - 12 =$ 21

Multiply or divide.

1. $(-4) \bullet (-10) =$ 40
2. $86 \bullet (-6) =$ -516
3. $(-52) \div 13 =$ -4
4. $164 \div (-4) =$ -41
5. $(-5) \bullet (-13) \bullet (-4) =$ -260
6. $204 \div (-3) \bullet (-7) =$ 476

Find each absolute value.

1. $|-15| =$ 15
2. $|11 - 14| =$ 3
3. $|-5,187| =$ 5,187
4. $|(-43) \bullet (-8)| =$ 344

Challenge Problem!

Evaluate.

1. $[2 + (-4)] + 5 - [(-11) \bullet (-2)] - (-7) =$ -12

   $[-2] + 5 - [\ 22\ ] + 7$

   $3 - 22 + 7$

NUMBER PATTERNS, EXPRESSIONS, & EQUATIONS

Write the next three terms of the pattern.

1. 100, 91, 82, 73, ... 64 , 55 , 46

2. 2, 9, 16, 23, ... 30 , 37 , 44

3. 1, 1, 2, 3, 5, 8, ... 13 , 21 , 34

1+1=2, 1+2=3, 2+3=5, 3+5=8, 5+8=13, 8+13=21, 13+21=34

Solve.

1. $x - 7 = 86$
$+7 \quad +7$
$x = 93$

2. $7 + 3y = 22$
$-7 \quad -7$
$\frac{3y}{3} = \frac{15}{3}$
$y = 5$

3. $\frac{5b}{5} = \frac{60}{5}$
$b = 12$

4. $\frac{f}{6} = 30 \cdot 6$
$f = 180$

5. $7w + 3 = 52$
$-3 \quad -3$
$\frac{7w}{7} = \frac{49}{7}$
$w = 7$

6. $5x - 7 = 118$
$+7 \quad +7$
$\frac{5x}{5} = \frac{125}{5}$
$x = 25$

Evaluate for the given value.

1. $4x - 5$, for $x = 7$

23

$4(7) - 5$
$28 - 5$

2. $(a \div b)^2 + (a \bullet b)$, for $a = 77$ & $b = 11$

896

$(77 \div 11)^2 + (77 \cdot 11)$
$7^2 + 847$
$49 + 847$

3. $\frac{50 - x}{y - 3}$, for $x = 5$ & $y = 6$

15

$\frac{50 - (5)}{(6) - 3} = \frac{45}{3}$

4. $(b - c)^2 \bullet (b + c)$, for $b = 9$ & $c = 3$

432

$(9 - 3)^2 \cdot (9 + 3)$
$6^2 \cdot 12$
$36 \cdot 12$

Evaluate each expression.

1. $(2+1)^4 - 9 - 4 =$ 5

$3^4 \div 9 - 4$

$81 \div 9 - 4$

$9 - 4$

2. $(5 \cdot 3 \cdot 2) - (63 \div 7) =$ 21

$30 - 9$

3. $\left[\frac{3}{4} \cdot 4\right] + 6^2 \div 9 =$ 7

$3 + 36 \div 9$

$3 + 4$

4. $[(9-7)^5 + 17] \div (7) =$ 7

$[2^5 + 17] \div 7$

$[32 + 17] \div 7$

$49 \div 7$

Translate each statement into an expression or equation.

1. Five more than (+) a number x. $5 + X$ or $X + 5$
2. A number x less (−) seventeen. $X - 17$
3. The product (×) of sixty and a number x is thirty. $60X = 30$

Find the GCF or LCM for each.

1. The GCF of 24 & 32 is 8.
2. The LCM of 12 & 16 is 48
3. The GCF of 18, 30, & 60 is 6.
4. The LCM of 3, 12, & 15 is 540

Write the prime factorization of each number.

1. $51 =$ $2 \cdot 3 \cdot 3 \cdot 3$

2 | 27

3 | 9

3 3

2. $57 =$ $3 \cdot 19$

3 | 19

FRACTIONS/DECIMALS/PERCENTS

Use >, <, or = to compare each pair of numbers.

1. $\frac{7}{8}$ > 0.82 (0.875)

2. -0.63 < $-\frac{5}{8}$ (-0.625)

3. $1\frac{4}{5}$ (1.8) > $\frac{21}{12}$ (1.75)

4. $-3\frac{1}{4}$ (−3.25) < $-3\frac{6}{25}$ (−3.24)

5. $\frac{15}{27}$ (0.5) < $\frac{16}{24}$ (0.6)

6. $\frac{8}{25}$ = 0.32 (0.32)

Write each percent as a decimal and as a fraction/mixed number in lowest terms.

		Decimal	Fraction/Mixed Number
1.	82%	0.82	$\frac{82}{100} = \frac{41}{50}$
2.	60%	0.60	$\frac{60}{100} = \frac{3}{5}$
3.	8%	0.08	$\frac{8}{100} = \frac{2}{25}$
4.	135%	1.35	$1\frac{35}{100} = 1\frac{7}{20}$

Order each group of numbers from least to greatest. Write your answer on the line.

1. $0.7, 0.\overline{7}, \frac{3}{4}, \frac{7}{8}$ ($0.\overline{7} = 0.777\ldots$; $\frac{3}{4} = 0.75$; $\frac{7}{8} = 0.875$)

   $0.7, \frac{3}{4}, 0.\overline{7}, \frac{7}{8}$

2. $-2\frac{2}{3}, -2\frac{2}{5}, -2.1, -2.25$ ($-2\frac{2}{3} = -2.\overline{6} = -2.666\ldots$; $-2\frac{2}{5} = -2.4$)

   $-2\frac{2}{3}, -2\frac{2}{5}, -2.25, -2.1$

Challenge Problem!

Complete the statement using >, <, or =.

1. 25% of 80 > 125% of 12

   $.25(80)$ $\quad$ $1.25(12)$

   20 $\quad$ 15

FRACTION OPERATIONS

Add, subtract, multiply, or divide. All answers must be in fraction/mixed number form.

1. $7\frac{3}{11} - 4\frac{13}{33} = 2\frac{29}{33}$

$7\frac{3\times3}{11\times3} = 7\frac{9}{33} = 6\frac{42}{33}$

$-\ 4\frac{13}{33} - 4\frac{13}{33} = 4\frac{13}{33}$

$2\frac{29}{33}$

2. $5\frac{9}{20} + 1\frac{3}{5} = 7\frac{1}{20}$

$5\frac{9}{20} = 5\frac{9}{20}$

$+\ 1\frac{3}{5} = 1\frac{12}{20}$

$6\frac{21}{20} = 7\frac{1}{20}$

3. $6\frac{8}{5} - \frac{4}{5} = 6\frac{4}{5}$

4. $\left(\frac{3}{8}\right) + \left(\frac{9}{20}\right) = \frac{33}{40}$

$\frac{3\times5}{8\times5} = \frac{15}{40}$

$+\ \frac{9\times2}{20\times2} = \frac{18}{40}$

$\frac{33}{40}$

5. $\frac{4}{1} \cdot \frac{3}{5} = \frac{12}{5}$

6. $\frac{3}{8} \div \frac{7}{12} = \frac{9}{14}$

$\frac{3}{2\cancel{8}} \times \frac{\cancel{12}^{3}}{7} = \frac{9}{14}$

7. $\left(6\frac{3}{16}\right) \cdot \left(3\frac{1}{5}\right) = \frac{99}{5} = 19\frac{4}{5}$

$\frac{99}{\cancel{16}} \times \frac{\cancel{16}}{5} = \frac{99}{5} = 19\frac{4}{5}$

8. $15 \div \left(4\frac{1}{6}\right) = \frac{18}{5} = 3\frac{3}{5}$

$\frac{3\cancel{15}}{1} \times \frac{6}{\cancel{25}_{5}} = \frac{18}{5} = 3\frac{3}{5}$

6

DECIMAL OPERATIONS

Add, subtract, multiply, or divide. All answers must be in decimal form.

1. $0.1465 + 0.28 =$ 0.4265

$$\begin{array}{r} 0.1465 \\ +\ 0.2800 \\ \hline 0.4265 \end{array}$$

2. $13.87 - 6.8412 =$ 7.0288

$$\begin{array}{r} 13.8786 \\ -\ 6.8412 \\ \hline 7.0288 \end{array}$$

3. $(7.039) \cdot (0.04) =$ .28156

$$\begin{array}{r} 7.039 \\ \times\ .04 \\ \hline .28156 \end{array}$$

4. $(4.844) \div (0.56) =$ 8.65

$$.56\overline{)4.844}$$

5. $11.57 - 9.283 =$ 2.287

$$\begin{array}{r} 11.570 \\ 9.283 \\ \hline 2.287 \end{array}$$

6. $(1.4678) \div (21.564) =$ 23.0318

$$\begin{array}{r} 1.4678 \\ 21.5640 \\ \hline 23.0318 \end{array}$$

7. $(9.767) \cdot (4.089) =$ 39.937263

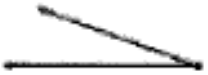
8. $(37.41) \div (4.3) =$ 8.7

GEOMETRY & MEASUREMENT

Write your answer on the line.

1. What is the approximate measure of this angle? 100°

2. What kind of angle is this? acute



3. If ∠1 measures 56°, what is its complement? 34°

4. If ∠1 measures 56°, what is its supplement? 124°

5. How many faces does this figure have? 6

6. How many vertices does this figure have? 10

7. How many edges does this figure have? 12

In the following diagram, CDFG ~ HJLK. Use this information to find the value of x.

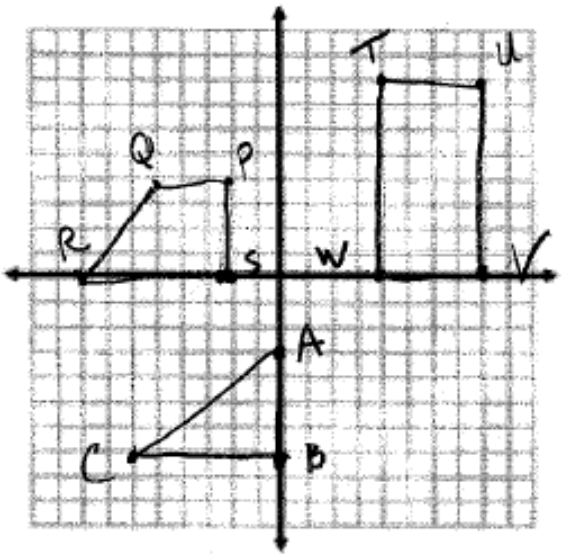
1. x = 9/4 2¼ft

Name the quadrant or place in which each point lies.

1. (-4, -2) 3
2. (0, -7) y-axis
3. (0,0) origin
4. (6, -9) 4
5. (3, 5) 1
6. (8, 0) x-axis

Graph and label (with letters) these figures on the same plane.

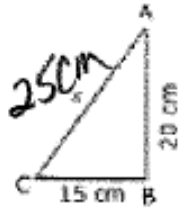
1. PQRS: P(-2,4), Q(-5,4), R(-8,0), S(-2,0)
   TUVW: T(4,8), U(8,8), V(8,0), W(4,0)
   ABC: A(0,-3), B(0,-7), C(-6,-7)



Challenge Problem!

Find the length of the missing side of this right triangle. $a^2+b^2=c^2$

1.



$15^2+20^2=c^2$

$225+400=c^2$

$\sqrt{625}=\sqrt{c^2}$

$c=25cm$

9

Key

RATIOS, PROPORTIONS, & PERCENTS

Find the unit rate.

1. $\frac{\$56}{8 lbs}$ = $7 per pound

2. 7 phone calls in 2 hours = 3.5 phone calls Per hour

Write the ratio as a fraction in simplest form.

1. 65 to 130 = $\frac{65}{130} = \frac{1}{2}$

2. $\frac{18}{63} = \frac{2}{7}$

Solve each proportion by cross-multiplying.

1. $\frac{20}{x} = \frac{16}{5}$

$\frac{100}{16} = \frac{16x}{16}$

$25/4 = x$

2. $\frac{y}{22} = \frac{11}{5.5}$

$\frac{5.5y}{5.5} = \frac{242}{5.5}$

$y = 44$

3. $\frac{3.6}{3} = \frac{b}{14.4}$

$\frac{3b}{3} = \frac{51.84}{3}$

$b = 17.28$

Find each value.

1. 40% of 25 is what number? 10

2. 18 is 75% of what number? 24

3. What percent of 600 is 180? 30%

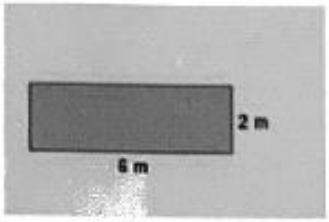
4. The cost of a meal is $35.27 and you leave an 18% tip. What is the total cost of the meal? Round to the nearest cent. $41.62

$$\begin{array}{r} 35.27 \\ +\ 6.35 \\ \hline 41.62 \end{array}$$

PERIMETER, AREA, & VOLUME

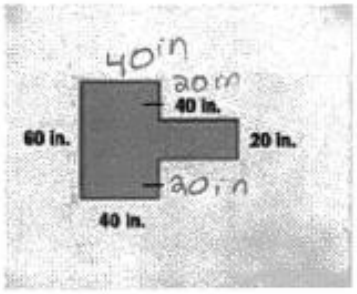
Find the perimeter of each polygon.

1.



16m

2.

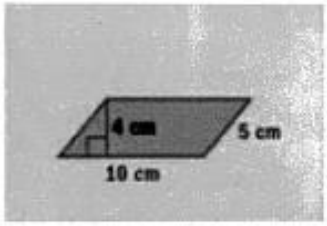


60 + 40 + 20 + 40 + 20 + 40 + 20 + 40

280 in

Find the area of each polygon.

1.

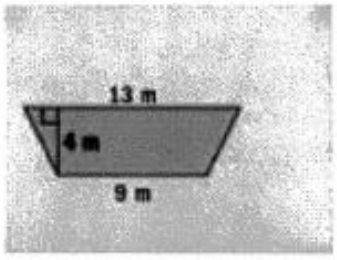


$A = bh$

$10(4)$

$40 cm^2$

2.



$A = \frac{1}{2}(a+b)h$

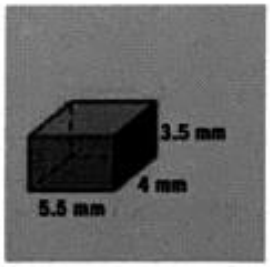
$\frac{1}{2}(13+9)4$

$\frac{1}{2}(22)4$

$44 m^2$

Find the volume of each figure.

1.

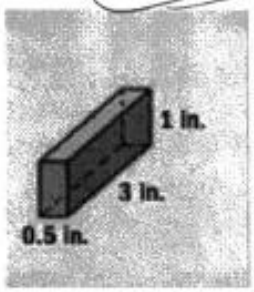


$V = l \cdot w \cdot h$

$(5.5)(4)(3.5)$

$V = 77 mm^3$

2.

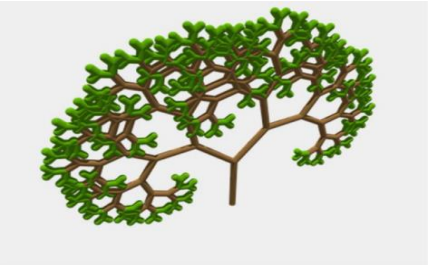


$V = l \cdot w \cdot h$

$V = (0.5)(3)(1)$

$V = 1.5 in^3$

8th Grade Unit 1: Investigating Linear Expressions, Equations, and Inequalities in One Variable



Overview:

In this unit, students will incorporate patterning and algebraic reason to create, interpret, solve, and graph linear equations and inequalities in one variable that will contain rational coefficients and variables on both sides whose solutions require the distributive property and combining of like terms. Students will learn to interpret expressions with multiple factors and/or terms and manipulate linear and literal equations expressed in various forms.

Learning Targets:

In Unit 1, students will:

- Create and interpret expressions in relevant situations
- Describe and solve linear equations in one variable with one solution, infinite solutions, and no solutions
- Real-life applications of linear equations & inequalities in one variable
- Justify the steps of a one-solution equation or inequality
- Manipulate equations and inequalities that are formulas
- Use algebraic reasoning to manipulate all types of equations and formulas

Key Vocabulary: (linked to GA DOE Interactive Glossary)

Algebraic Properties	Coefficient	Equation	Equivalent Equation
Expression	Factor	Inverse Operations	Linear Equation in One Variable
Linear Inequality in One Variable	Literal Equation	Terms	Variable

Supporting Resources:

http://ctlslearn.cobbk12.org/	Balancing Equations
https://gavirtual.instructure.com/courses/34331	Virtual Algebra Tiles
Multi-Step Inequality Word Problems	Solving Linear Equations
Solving Linear Inequalities	Solving Literal Equations

Practice for Unit 1:

Solve each equation.

1) $-7 = n - 13$

2) $36 = p + 18$

3) $-8 = \frac{r}{5}$

4) $8b = -24$

5) $5 = 2 + \frac{k}{3}$

6) $9a - 7 = 2$

7) $-50 = -6 - 4r$

8) $7 + 7b = 126$

9) $1 + 5k + 5 = -19$

10) $-7n - 5 + 2 = -3$

11) $5a - 2a = 15$

12) $-4x + 5x = -4$

13) $-8-8(1-4b)=-176$

14) $-4-7(p-6)=87$

15) $6(1-2p)-4p=-106$

16) $6(x+8)=90$

17) $7(3a-2)=-6a-14$

18) $-2x-25=8+7(-7x+2)$

19) $2(b+5)+2=30+8b$

20) $-19-5x=-8(5-3x)-8$

21) $14-3m=5(4-6m)-6$

22) $4-4(5-6b)=-16-6b$

23) $-4-p=-2(5p+7)+7p$

24) $-34+6x=-4x+6(5+7x)$

25) $-2(1+2v)+4(v-8)=-34$

26) $-1=-(-4n+7)+3(2+8n)$

27) $-39 = 6(6 - 7n) + 5(4n + 7)$

28) $-64 = 3(a - 4) + 7(8a + 1)$

29) $6(n - 3) - 5 = 19 - n$

30) $-5 + 5k = -6k - 5(1 - 6k)$

31) $6 + 3(v - 2) = 3v$

32) $21 - 3b = -7(8b - 3)$

Solve each equation for the indicated variable.

33) $\frac{k}{a} = w + v$, for a

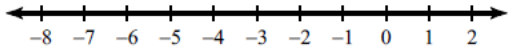
34) $u = y - k + x$, for x

35) $ma = pn$, for a

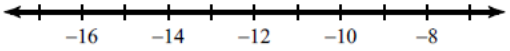
36) $k - x = v + w$, for x

Solve each inequality and graph its solution.

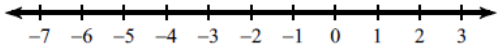
37) $-8 \geq r - 7$



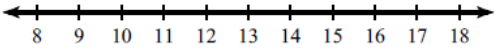
38) $-2 > \frac{k}{5}$



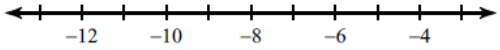
39) $-\frac{1}{5} > \frac{b}{10}$



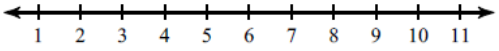
40) $\frac{11}{19} \leq \frac{m}{19}$



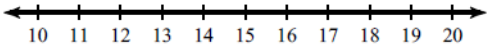
41) $-9(m - 3) > 81$



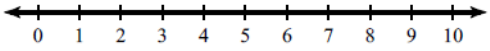
42) $\frac{1 + n}{8} \leq 1$



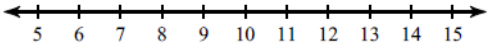
43) $-1 \geq -5 + \frac{p}{3}$



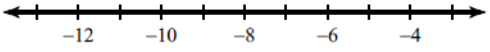
44) $28 \geq 4 + 3k$



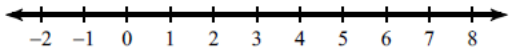
45) $-3(4 + 5n) > -132$



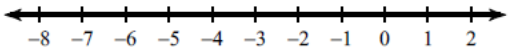
46) $288 \geq 8(1 - 5k)$



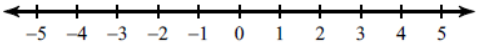
47) $5(1+7x) \le 180$



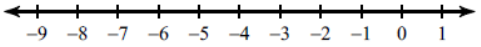
48) $122 \ge 3x + 4(-7x - 7)$



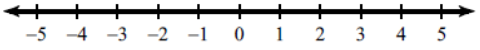
49) $-5(6k-5) > -11 + 6k$



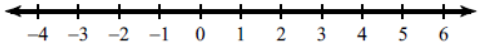
50) $19 + 2n < -3(5n + 5)$



51) $40 + 5x < 8(-2x + 5) - 8x$



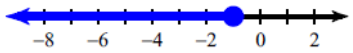
52) $-23 - 7n < 8(7n + 5)$



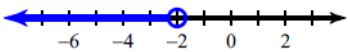
Answers to

1) $\{6\}$
2) $\{18\}$
3) $\{-40\}$
4) $\{-3\}$
5) $\{9\}$
6) $\{1\}$
7) $\{11\}$
8) $\{17\}$
9) $\{-5\}$
10) $\{0\}$
11) $\{5\}$
12) $\{-4\}$
13) $\{-5\}$
14) $\{-7\}$
15) $\{7\}$
16) $\{7\}$
17) $\{0\}$
18) $\{1\}$
19) $\{-3\}$
20) $\{1\}$
21) $\{0\}$
22) $\{0\}$
23) $\{-5\}$
24) $\{-2\}$
25) { All real numbers. }
26) $\{0\}$
27) $\{5\}$
28) $\{-1\}$
29) $\{6\}$
30) $\{0\}$
31) { All real numbers. }
32) $\{0\}$
33) $a = \dfrac{k}{w+v}$
34) $x = u - y + k$
35) $a = \dfrac{pn}{m}$
36) $x = k - v - w$

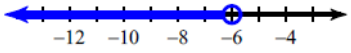
37) $r \le -1$:



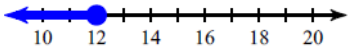
39) $b < -2$:



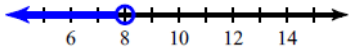
41) $m < -6$:



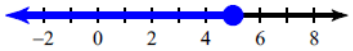
43) $p \le 12$:



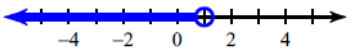
45) $n < 8$:



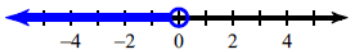
47) $x \le 5$:



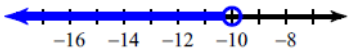
49) $k < 1$:



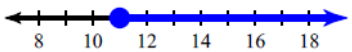
51) $x < 0$:



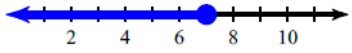
38) $k < -10$:



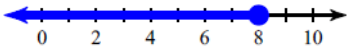
40) $m \ge 11$:



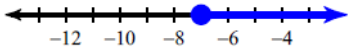
42) $n \le 7$:



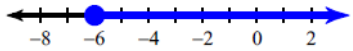
44) $k \le 8$:



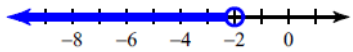
46) $k \ge -7$:



48) $x \ge -6$:



50) $n < -2$:



52) $n > -1$: