Welcome to 7th Grade!

Hello Rising 7th Graders,

We had a **GREAT** year this year. A lot of you showed such **amazing growth** in math and I am **SO** proud of you all! I want to make sure that when we come back to school in the Fall that we can pick up right where we left off and get straight to work. I know for me too, it can be hard coming back to school and remembering everything from class last year. So it's MY GOAL to help you remember over the summer by assigning a minimal amount of work that just keeps you on your toes, but doesn't overwhelm you.

I have printed 8 weeks of review for you based on your grade level LAST year. This is to be completed in a paper packet. I will collect these packets the first day back to school, they will count as your first **quiz grade** of the new school year.

Your packet is made up of: 1 page of review for each unit (this is front and back) some weeks will be faster than others. Each skill has detailed notes for you to look at to remember *how* to complete the work. At the end of SOME weeks, you will have a quiz that reviews that material. The quiz is included because it 1) helps strengthen your skills with quiz/ test questions and 2) to give a further review of the big concepts. You will be invited to a Schoology page for the summer that gives you access to all my videos for each unit. Feel free to use this as you need/ want.

Each week you need to complete:

- ONE unit page (this is front and back)
- A quiz (if it is found directly after the practice

Expectations	**Description**	**Points**
Completed the entire page assigned each week (this includes the quizzes)	All questions were answered and the answer was BOXED in or in case of multiple choice, CIRCLED so that it was legible	/10
Showed work for each problem solved	Clearly showed the work in the appropriate space. Worked out long hand multiplication & division clearly; showed all steps in order of operations or all steps in solving an equation	/10
Neatness	My work is legible and easy for my teacher/parent/friend to follow and clearly BOXES in my answer	/5
TOTAL		/25

I have included an example of my expectations for showing work and neatness

Full Points (see example)	Half Points	No Points
Showed all work	Showed most of work	Did not show work
Answered all questions	Half completed	Less than half complete
Clearly legible & easy to read	Mostly readable, with a few areas being difficult to decipher	Very difficult to decipher, cannot see work clearly; numbers are easily misread

Want more practice/ extra credit?

I am offering an extra credit quiz grade to anyone who choose to do extra work by completing a diagnostic test in IXL. This test will help evaluate WHERE you are in Math and then will tailor specific skills for you to work on.

How to get to the diagnostic test:

- ☐ Log into your school IXL account
- ☐ Click on the green box labeled "Step into the Arean" Discover your math and ELA levels
- ☐ When it loads, click on the top right corner where it says "math and language arts" and choose "Math"
- ☐ Answer all the questions that it asks, and do your best (please use SCRAP paper for your work that you complete and attach it to the back of your packet with the title "IXL Math Diagnostic Work"

*You can also work on flagged skills for extra credit:

How to work on flagged skills:

- ☐ Go back to the My IXL page by clicking my IXL at the top
- ☐ In the bottom right corner, find where it says "Study Plans" and click on the blue link "Personal Virginia NWEA MAP growth study plan
- ☐ Make sure the drop down says math and then choose any of the skills you think you need the most work on
- ☐ Go to **recommended skills** specifically for **math** and work on any of the identified skills there as well

Diagnostic Test	Completed the diagnostic test to the **BEST** of my ability to give an accurate reading of my math skill.	/5
Extra Skills	I worked for at least 30 minutes minimum on 1 or more designated skill that I need work on (1 point each; capped @ 5)	/5
Total Points		/10

* Example: How to SHOW your work! *

Order of Operations

Date:

Simplify the following:

1. $8 - |-6| + 3$

$8 - 6 + 3$

$2 + 3$

$\boxed{5}$

2. $1 + 2^4 \div (56 \div 7)$

$2 \times 2 \times 2 \times 2$

4×4

$1 + 16 \div (56 \div 7)$

$1 + 16 \div (8)$

$1 + 2$

$\boxed{3}$

3. $2[45 \div (11 - 8)^2] - 3$

$2[45 \div (3)^2] - 3$

$2[45 \div 9] - 3$

$2[5] - 3$

$15 - 3$

$\boxed{12}$

4. $\dfrac{(4 - 13)^2 - 6}{25 \div 5} - |-2|$

$\dfrac{(-9)^2 - 6}{25 \div 5} - |-2|$

$\dfrac{(81) - 6}{25 \div 5} - 2$

$\dfrac{75}{5} - 2 \quad 15 - 2 = \boxed{13}$

Evaluating Expressions

Date:

Evaluate the following if a = -3, b = 8, and c = -4

1. $9a - 2ab$

$9(-3) - 2(-3)(8)$

$-27 - (-6)(8)$

$-27 - (-48)$

$-27 + 48 = \boxed{21}$

2. $a^2 + 7c - 1$

$(-3)^2 + 7(-4) - 1$

$(-9) + (-28) - 1$

$-37 - 1 = \boxed{-38}$

3. $|10 - 4b|$

$|10 - 4(8)|$

$|10 - 32|$

$|-22|$

$\boxed{22}$

4. $\dfrac{2c^2 + 5b}{a}$

$\dfrac{2(-4)^2 + 5(8)}{-3} \quad \dfrac{32 + 40}{-3}$

$\dfrac{2(16) + 5(8)}{-3} \quad \dfrac{72}{-3} = \boxed{-24}$

5. $\dfrac{-c^2 + 2ac}{c - b}$

$\dfrac{-(-4)^2 + 2(-3)(-4)}{(-4) - 8}$

$\dfrac{-(16) + (-6)(-4)}{(-4) - 8}$

$\dfrac{-16 + 24}{-12} \rightarrow \dfrac{8}{-12} = \boxed{-\dfrac{2}{3}}$

6. $-b^2 - 2\sqrt{7 - 3a}$

$-(8)^2 - 2\sqrt{7 - 3(-3)}$

$-(64) - 2\sqrt{7 + 9}$

$-(64) - 2\sqrt{16}$

$-64 - 2(4)$

$-64 - 8$

$\boxed{-70}$

Unit 1

Powers & Exponents

when we multiply a # by itself.

the "power" is how many times we multiply that # by itself.

Date:

Write the product as a power in exponential form.

1. $3\times3\times3\times3\times3\times3\times3\times3$

2. $25\times25\times25$

Evaluate each power.

3. 17^2

4. 2^4

5. 11^3

6. 3^5

7. Compare by filling in the circle with a <, >, or = symbol.

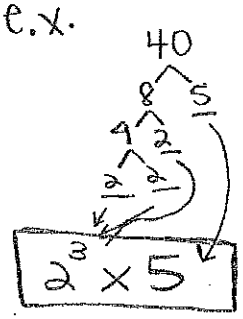
32^2 ◯ 4^5

Unit 1

Prime Factorization

use the factor tree to find all the prime numbers that multiply to that number and express them including exponents.

e.x.



Date:

List the factors of each number.

1. 28

2. 90

State whether the number is prime or composite.

3. 97

4. 249

5. 183

Give the prime factorization of each number.

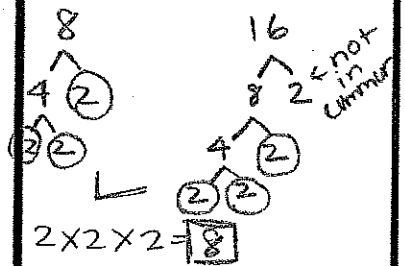
6. 448

7. 396

Unit 1

Greatest Common Factor (GCF)

Create a factor tree for each #. Using the prime numbers, multiply only the numbers they have in common.



Date:

Find the GCF of each set of numbers.

1. 32 and 48

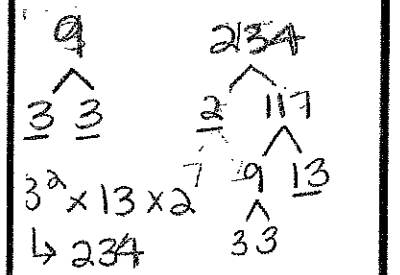
2. 108 and 189

3. Graham has 80 blue, 48 red, and 112 yellow balloons. What is the greatest number of balloon arrangements he can make if he wants each arrangement to be the same? How many of each color with each arrangement receive?

Unit 1

Least Common Multiple (LCM)

Create a factor tree for each #. Using only the prime #'s multiply the amount of each prime # in the trees. trees ex:



Date:

Find the LCM of each set of numbers.

1. 27 and 45

2. 8 and 52

3. Flora is buying apples, oranges, and bananas to create fruit baskets. Apples come in bags of 12, oranges come in bags of 9, and bananas come in bunches of 5. If she wants the same number of each fruit, how many of each will she need to buy?

Unit 2

Integer Operations

Rules (memorize)

A/S

⊕ + ⊖ = Subtract, keep sign of larger ±

⊖ + ⊖ = Add normal, keep sign.

Subtraction → change to add. problem using KCS + follow the rules.

M/D

same sign = +

diff sign = −

Date:

Evaluate.

1. $-27 \div (-9)$
2. $7 - (-8)$
3. $-3 + (-2)$
4. $-8(6)$
5. $16 + (-18)$
6. $\frac{21}{-3}$
7. $-21 + 5$
8. $-5 \cdot (-4)$
9. $-1 - (-19)$
10. $\frac{0}{-4}$
11. $-12 - 17$
12. $-60 \div 6$
13. $14(-3)$
14. $-4 + (-4)$
15. $-15 - (-11)$
16. $12 \div 0$
17. $-17(-2)$
18. $16 + (-16)$

Unit 2

Integer Operations Applications

Determine whether each # is positive or negative before determing your operation.

Remember a − # signifies a decrease.

Date:

Write an expression using integer operations to solve. Then solve.

1. Last month, a company reported sales totaling $1,739 and expenses totaling $2,005. Find their net profit.
2. The depth of a lake decreased by 96 centimeters in 6 weeks. Find the average change in the depth of the water each week.
3. If an elevator is dropping 4 feet per second, find the change in elevation after 14 seconds.
4. A game show contestant scored -380 in the first round and -535 in the second round. Find the total score after the first two rounds.

Unit 2

Order of Operations (with Integers)

[Parantheses][Grouping]
Exponents
M and D — M/D in order left → right
A and S — A/S in order left → right

Date:

Simplify.

1. $-7+(-3)\cdot 9$

2. $(-1)^2-15+4$

3. $\dfrac{-12(-2)+6}{-4-2}$

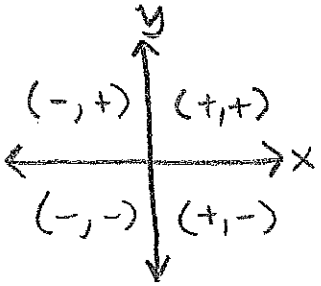
4. $-19+(4-6)^3$

5. $3^2+5^2\cdot(-2)-10$

6. $-7^2-18\div(-3)\cdot 5$

Unit 2

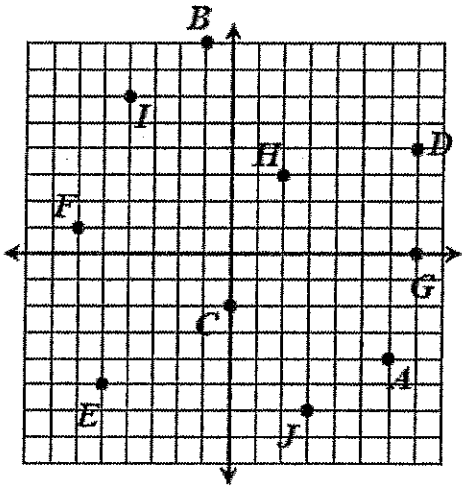
The Coordinate Plane



ordered pair: (x, y)

Date:

Identify the ordered pair and location (quadrant or axis) for each point on the graph.



Point	Ordered Pair	Location
A		
B		
C		
D		
E		
F		
G		
H		
I		
J		

Math 6 Review

QUIZ 1

Name: _____

Date: _____ **Per:** _____

1. Which list of numbers contains only prime numbers?

A. {31, 63, 97}
B. {23, 89, 109}
C. {57, 79, 113}
D. {49, 97, 129}

2. The partial prime factorization of the number 1,008 is given below. Complete the factorization by writing the missing numbers in the boxes.

$\square^{2} \cdot 2^{\square} \cdot \square$

3. Which statement is true about the greatest common factor (GCF) and least common multiple (LCM) of the numbers 12 and 20?

A. The GCF is 32 more than the LCM.
B. The LCM is 32 more than the GCF.
C. The GCF is 56 more than the LCM.
D. The LCM is 56 more than the GCF.

4. Kingston has two pieces of fabric. One is 56 inches wide and the other is 96 inches wide. He wants to cut both pieces of fabric into strips of equal width that are as wide as possible. How wide should he cut the strips?

A. 2 inches
B. 4 inches
C. 8 inches
D. 12 inches

5. Alex is $2\frac{2}{9}$ years older than his sister Jenna. How old is Jenna if Alex is $5\frac{5}{6}$ years old?

A. $3\frac{11}{18}$ years
B. $3\frac{7}{18}$ years
C. $8\frac{1}{18}$ years
D. $8\frac{5}{18}$ years

6. There are $20\frac{2}{3}$ cups of dog food in a storage bin. If Kayla's dog eats $2\frac{1}{2}$ cups of food each day, how many full days will the food last?

A. 7 days
B. 8 days
C. 9 days
D. 10 days

7. Evaluate the expression below.

11.28(1.875)

A. 19.45
B. 19.85
C. 20.95
D. 21.15

8. Evaluate the expression below.

$$\frac{132}{4.8}$$

A. 27.5
B. 28.5
C. 30.8
D. 32.5

9. **The total cost for 1.4 pounds of strawberries was $3.71. Find the cost per pound.**

A. $2.35
B. $2.45
C. $2.55
D. $2.65

10. **Mara wrote down an integer. The opposite of Mara's integer is between 20 and 30. Which statement about Mara's integer must be true?**

A. It is less than -35.
B. It has an absolute value of 10.
C. It is less than -10.
D. It is greater than -10.

11. **Which list shows temperatures in order from coldest to warmest?**

A. {-15° F, 12° F, -8 ° F, 0 °F}
B. {0° F, -8° F, 12 °F, -15 °F}
C. {-8° F, -15° F, 0° F, 12° F}
D. {-15° F, -8° F, 0 ° F, 12 °F}

12. **Which values are less than -6 or greater than 8? Check all that apply.**

☐ $-8+(-4)$	☐ $3+(-7)$
☐ $36\div(-9)$	☐ $-1-3$
☐ $-2-(-2)$	☐ $-2(-2)$

13. **Given the five integers below, which two integers would have the smallest product?**

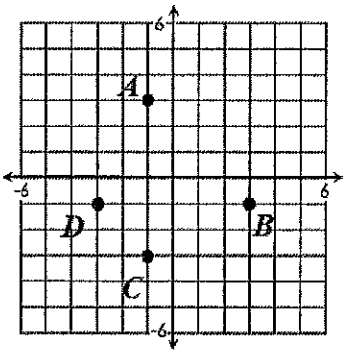
-7, 4, -2, 9

A. -7 and 9
B. 4 and -2
C. -2 and -7
D. 9 and -2

14. **A shark swimming 250 feet below the surface of the water rises 78 feet to eat a fish, then swims down 95 feet. Which value represents the location of the shark relative to the surface of the water?**

A. -77 feet
B. -233 feet
C. -267 feet
D. -423 feet

15. **Which point can be represented by the ordered pair (-1, 3)?**



A. A
B. B
C. C
D. D

16. **Which of the following must be true for the ordered pair (a, b) to be in the second quadrant?**

A. $a > 0$ and $b > 0$
B. $a < 0$ and $b < 0$
C. $a > 0$ and $b < 0$
D. $a < 0$ and $b > 0$

Unit 3

All Fraction Operations

Rules *Use PEMDAS*

A/S unlike denominators
- create common denominator using LCM;
- make the other # an equivalent fraction and solve.

M/D
M: multiply across
D: Flip 2nd fraction & multiply across

CROSS SIMPLIFY

Date:

Evaluate.

1. $\frac{2}{3}+\frac{1}{12}$
2. $1\frac{7}{10}-\frac{5}{6}$
3. $2\frac{4}{9}+1\frac{5}{12}$
4. $\frac{8}{21}\cdot 3\frac{3}{4}$
5. $2\frac{2}{15}\cdot 1\frac{7}{18}$
6. $\frac{9}{10}\div\frac{6}{14}$
7. $\left(\frac{17}{18}-\frac{1}{2}\right)\div 10$
8. $1\frac{3}{4}-\frac{9}{20}\cdot\frac{5}{24}$

Unit 3

Applications with Fraction Operations

What is it asking for? What do you want to find out?
What operation do you need to use?
What information did they give you? What #s?
Solve.

Date:

1. Each walk around the block is $1\frac{7}{15}$ miles. If Valencia walked around the block $4\frac{7}{12}$ times, how far did she walk?

2. Kate watched $\frac{3}{20}$ of a movie on Friday, then $\frac{4}{15}$ more of the movie on Saturday. What fraction of the movie does she have left to watch?

3. A jug of laundry soap contains $40\frac{5}{6}$ ounces. If Alex uses $1\frac{7}{9}$ ounces of laundry, how many loads can he wash?

Unit 3

All Decimal Operations

A/S: Line up decimals.

M: ignore until end. count decimal places and move that many places left

D: whole # → bring decimal straight above
decimal → move decimal to make whole. move other decimal same amount, put above

Date:

Evaluate.

1. $15.7 - 6.92 + 74.9$

2. 8.3×5.9

3. $0.79(162.3)$

4. $4.68 \div 9$

5. $13.5 \div 1.2$

6. $\frac{8.8}{0.32}$

Unit 3

Applications with Decimal Applications

what is it asking
↓
what operation?
↓
what #s?
↓
solve.

Date:

1. Rick is losing weight at an average of 0.328 pounds per day. If his current weight is 203.16 pounds, find his weight after 16 days.

2. Mora has $27.80 available on her coffee shop gift card. If each cup of coffee costs $1.60, how many more cups can she buy?

Unit 4

Combining Like Terms
(with negative integers)

Date:

1. Identify the variable terms, coefficients, and constant terms of the expression below.

$-11-8w+2w+5-w$

Simplify each expression.

2. $4p+11p$

3. $-9x+3+5x$

4. $a+3-7a-16$

5. $-16k+1+6k-2k$

6. $\frac{3}{10}y-10+2+\frac{1}{5}y$

7. $17-3c-25+8d+c-d$

- can only combine terms that are the same!

$a^2+ab+3ab+2x$

$a^2+4ab+2x$

$3x+7y-2y+6+3$

$3x+5y+9$

* Always adding. the operation in front of the # is its sign (pos/neg)

Unit 4

The Distributive Property
(with negative integers)

Date:

Simplify each expression using the distributive property.

1. $3(17-8)$

2. $-8(2+13)$

3. $5(x+3)$

4. $-7(k-8)$

5. $-4(2w+9)$

6. $12(1-k)$

7. $6(3r+8s)$

8. $\frac{2}{3}\left(\frac{3}{4}m+12\right)$

- multiply everything inside ( ) by the # outside

Remember:

$7(6+3x+y)$

$42+21x+7y$

Unit 4

Simplifying Expressions
(with negative integers)

Steps

1) Distribute (if necessary)
2) Combine like terms

*DO NOT SOLVE. THIS IS AN EXPRESSION NOT AN EQUATION!

Date:

Simplify each expression completely.

1. $4(k+3)-1$

2. $-7(2w-5)+3w$

3. $13-5(3p-1)$

4. $\frac{1}{2}(4-18m)-2m+16$

5. $-17a+2(1-a)-3$

6. $-4(4x+y)+9(y-x)$

Unit 4

Factoring Expressions

Use your factor tree to find the GCF of each #.

Pull that # out of each, place it outside parenthesis and the remainder inside.

Ex:

$16x-24$

16 = 8 · 2 = 4 · 2 · 2

24 = 8 · 3 = 4 · 2 · 3

GCF = 8

$\frac{16x-24}{8}$

$8(2x-3)$

Date:

Factor each expression using a GCF.

1. $15+42$

2. $84-60$

3. $4x+40$

4. $3a-21$

5. $18w+9$

6. $30p-55$

7. $24-16m$

8. $48c+18d$

Math 6 Review

QUIZ 2

Name: _____

Date: _____ Per: _____

1. Which of the following expressions is equivalent to $3^7 \cdot 8^2$?

   A. $(3 \cdot 7) \cdot (8 \cdot 2)$
   B. $7 \cdot 7 \cdot 7 \cdot 8 \cdot 8$
   C. $3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 8 \cdot 8$
   D. $3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot 16$

2. Of the list of values below, what is the sum of the largest value and smallest value?

   $3^5, 12^2, 6^3, 4^4$

   A. 400
   B. 385
   C. 360
   D. 325

3. Write a number in the box that makes the statement true.

   $10^{\square} = 1{,}000{,}000{,}000$

4. What is the greatest perfect square between 250 and 300?

   A. 256
   B. 275
   C. 289
   D. 296

5. What operation should be performed first in order to simplify the expression below?

   $60 - 5(12 \div 4)^2$

   A. subtract 5 from 60
   B. multiply 5 and 12
   C. divide 12 by 4
   D. square 4

6. Find the value of the expression below.

   $$\frac{4 + 2^3 \cdot 8}{-3 - 1}$$

   A. -26
   B. -17
   C. -13
   D. -34

7. Find the value of the expression below if a = -5 and b = 8.

   $$a^2 - ab + 2b$$

   A. 12
   B. 31
   C. 36
   D. 81

8. Find the value of the expression below if x = 2.

   $$\frac{7}{6} - \frac{8}{9} \div x$$

   A. $\frac{5}{36}$
   B. $\frac{11}{36}$
   C. $\frac{13}{18}$
   D. $\frac{7}{18}$

9. **Which expression represents 7 less than the quotient of a number n and 3?**

A. $7-3n$

C. $3(n-7)$

B. $7-\frac{n}{3}$

D. $\frac{n}{3}-7$

10. **Which statement about the expression below is true when it is written in simplest form?**

$$8k-4-6+3k$$

A. 11 is a constant
B. -10 is a constant
C. -2 is a coefficient
D. 5 is a coefficient

11. **Simplify the expression below. Write your answer in the box.**

$$-7(2y+5)$$

12. **Which of the following represents the expression below in simplest form?**

$$7(c-2d)-4d+3c$$

A. $10c-18d$
B. $10c-9d$
C. $4c-18d$
D. $4c-9d$

13. **Write the expression below in factored form by writing the values in the boxes.**

$$78-30=\square\left(\square-\square\right)$$

14. **Which of the following is equivalent to the factored form of the expression below?**

$$16m+40$$

A. $8\cdot 2m+8\cdot 5$
B. $4\cdot 4m+10\cdot 4$
C. $8(2m+5)$
D. $4(4m+10)$

15. **Which statement can be justified by the commutative property of multiplication?**

A. $14(8+5)=14\cdot 8+14\cdot 5$
B. $(2\cdot 7)+8=8+(2\cdot 7)$
C. $6(4x+y)=(4x+y)6$
D. $(2p\cdot 3q)\cdot 7r=2p\cdot(3q\cdot 7r)$

16. **Which property is illustrated by the statement below?**

$$\left(\frac{2}{3}\cdot\frac{3}{2}\right)+0=\left(\frac{2}{3}\cdot\frac{3}{2}\right)$$

A. Inverse Property of Multiplication
B. Multiplicative Property of Zero
C. Inverse Property of Addition
D. Identity Property of Addition

Unit 5

One-Step Equations (All Operations)

*with negative integers

Use the inverse operation (opposite) to solve by isolating the variable (letter)

A ↔ S M ↔ D

Examples:

$\frac{7x}{7} = \frac{56}{7}$

$x = 8$

$15 + x = 18$

$-15 \quad -15$

$x = 3$

Date:

Solve each equation. Check your solution.

1. $x - 7 = -9$

2. $-4 = \frac{v}{-10}$

3. $16 = k - 3$

4. $12 + m = -1$

5. $7p = -28$

6. $j + (-9) = 9$

Unit 5

Translating One-Step Equations

(with negative integers)

Quotient
divided by

product
times
multiplied
of

add to
more than
increased by

subtract from
decreased by
minus
less than

Date:

Translate each equation, then solve.

1. "14 less than a number results in -3."

2. "The quotient of a number and 9 is -5."

3. "-26 equals the sum of a number and 7."

4. "The product of a number and -3 is -45."

Unit 5

One-Step Inequalities (All Operations)

*with negative integers

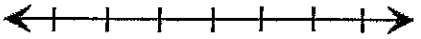
- Solve like a normal equation but use the inequality.
- M/D by a neg on both sides, flip inequality
- Graph
  - Add #s
  - ○ → <, >
  - ● → ≤, ≥

arrow points in direction of sign.

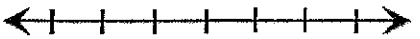
Date:

Solve and graph the solution to each inequality.

1. $x + 9 \leq 4$

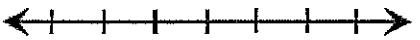


2. $\frac{p}{7} < 6$



3. $n - 11 > 3$

4. $-5a \leq 40$



5. $\frac{k}{9} < -2$

6. $1 \leq w + (-5)$

Unit 5

Translating One-Step Inequalities

(with negative integers)

Date:

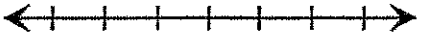
Translate each inequality. Then solve and graph the solution.

1. "The product of a number and -5 is greater than -15."

2. "13 is less than or equal to the sum of a number and 6."

3. "4 subtracted from a number is at least -18."

4. "The quotient of a number and 4 has a maximum value of -7."



Math 6 Review

QUIZ 3

Name: _____

Date: _____ Per: _____

1. Solve the equation below. Write your solution in the box.

$$m + 11 = -4$$

$m =$ ☐

2. What is the solution to the following equation?

$$48 = \frac{y}{8}$$

A. $y = 6$

B. $y = 40$

C. $y = 56$

D. $y = 384$

3. What is the solution to the equation below?

$$k - \frac{3}{4} = 1\frac{9}{10}$$

A. $1\frac{3}{20}$

B. $1\frac{7}{20}$

C. $2\frac{13}{20}$

D. $2\frac{17}{20}$

4. Which equation has a solution of $w = 5$?

A. $w - 1 = 6$

B. $w + 2 = 3$

C. $\frac{w}{2} = 10$

D. $1.8w = 9$

5. The maximum height that Caitlin climbed on a mountain was h feet. Once she reached this point, she descended 150 feet to eat lunch at a height of 1300 feet. Check the equation in the Column 1 and the solution in Column 2 that represents h.

Column 1	Column 2
☐ $h - 150 = 1300$	☐ $h = 1150$
☐ $h + 150 = 1300$	☐ $h = 1450$

6. After 6 people boarded a bus, the bus had 48 people. Which equation can be used to find n, the number of people on the bus before the 6 people boarded?

A. $\frac{n}{6} = 48$

B. $n - 6 = 48$

C. $6n = 48$

D. $n + 6 = 48$

7. It costs \$1.60 per pound to mail a package. Find the weight of a package that cost \$11.52 to mail.

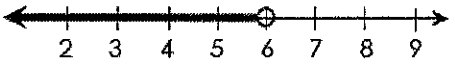
A. 6.4 pounds

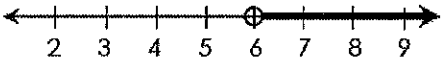
B. 7.2 pounds

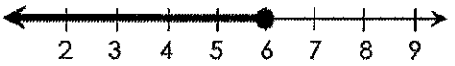
C. 9.8 pounds

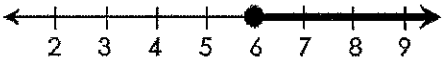
D. 12.6 pounds

8. Which graphs represents all numbers that are a minimum of 6?

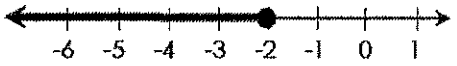
A. 

B. 

C. 

D. 

9. Which inequality could represent the set of numbers, n, shown on the graph below?



A. $-2 \geq n$

B. $-2 \leq n$

C. $-2 > n$

D. $-2 < n$

10. Given $p > -7$, in which list is each number a possible value of p?

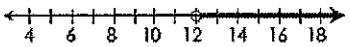
A. {-7, -2, 0}

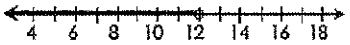
B. {-4, -1, 3}

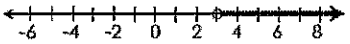
C. {-17, -11, -9}

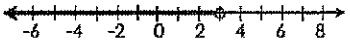
D. {-20, -13, -7}

11. Which number line represents the solution to $-2x > -6$?

A. 

B. 

C. 

D. 

12. Which represents the solution to the inequality below?

$$a - (-8) \geq 2$$

A. $a \geq -10$

B. $a \geq 10$

C. $a \geq -4$

D. $a \geq -6$

13. The high temperature yesterday was more than 10° degrees below normal. If the normal high temperature for that day is 65°, which inequality represents t, yesterday's high temperature?

A. $t \leq 55°$

B. $t \geq 55°$

C. $t < 55°$

D. $t > 55°$

14. Greg burns 8 calories per minute running. If he wants to burn more than 100 calories running at the same rate, which inequality represents the possible values for m, the number of minutes Greg will need to run?

A. $m > 12.5$

B. $m < 12.5$

C. $m > 0.8$

D. $m < 0.8$

15. Mia has $700 in her checking account. She wants to use part of this money to purchase a new laptop. If she wants to have at least $250 in her account after purchasing the laptop, which inequality represents s, the amount of money she can spend?

A. $s \leq \$950$

B. $s \leq \$450$

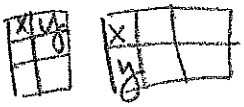
C. $s \geq \$950$

D. $s \geq \$450$

Unit 6

Proportional Relationships: Missing Values

Find quotient/product b/w 2 #'s and M/D to other to fill in missing blank.

$\frac{y}{x}$ 

↳ $y \div x$

Date:

The quantities in each table represent a proportional relationship. Find each missing value.

1.

Creamer (oz)	2	
Coffee (oz)	8	50

2.

Weeks	4	14
Inches	6	

3.

Gallons of Gas		20
Cost ($)	18	48

4. An elevator traveled 50 feet in 4 seconds. At this rate, how far would the elevator travel in 30 seconds?

Unit 6

Unit Prices

Solve:

- $\frac{\$}{\text{quantity}}$ unit:
- $\frac{\$}{\#}$ per item.
- $\$ \#$ /item.

Date:

Use unit rates to choose the better deal:

1. **Option A)** $36 for 8 rounds of mini-golf
   Option B) $24 for 5 rounds of mini-golf

2. **Option A)** 18-oz box of cereal for $5.76
   Option B) 12-oz box of cereal for $3.36

3. **Option A)** 0.8 pounds of deli ham for $6.72
   Option B) 1.4 pounds of deli ham for $11.90

Unit 6

Percent of a Number

of means...

change the percent to a decimal before. (2 places left)

Date:

Find the percent of each number.

1. 40% of 65

2. 85% of 18

3. 9% of 140

4. 160% of 75

5. Karen's goal is to drink at least 96 ounces of water each day. If she has drank 15% of this so far, how many ounces does she have left to drink to reach her goal?

Converting Fractions, Decimals, & Percents

Fraction → Decimal

$\frac{a}{b} \rightarrow b\overline{)a.cf}$

Decimal → %

a.bcd = abc.d%

move decimal 2 places right

Decimal → Fract

· count place value, put # over its place value. Simplify.

Fract → %

equivalent fraction out of 100 $\frac{3}{5} \times \frac{20}{20} = \frac{60}{100}$

Date:

	Fraction	Decimal	Percent
1.		0.68	
2.			300%
3.	$\frac{9}{8}$		
4.		0.4	
5.	$1\frac{2}{3}$		
6.			52.5%
7.	$\frac{4}{25}$		

Math 6 Review

QUIZ 4

Name: _____

Date: _____ **Per:** _____

1. Which ratio represents the number of vowels to total letters in the word JACKSONVILLE?

A. 1 to 4
B. 1 to 3
C. 1 to 2
D. 2 to 3

2. Write a number in the box below to create equivalent ratios.

7 : ☐ and 56:32

3. The ratio of cats to dogs at a pet shelter is 4 to 3. If there are 36 dogs, how many cats are there?

A. 27
B. 36
C. 48
D. 52

4. A 32-ounce container of apple juice contains 80 grams of sugar. If this information is organized into the ratio table below, what are the values of x and y?

Apple Juice (oz)	1	y	32
Sugar (g)	x	10	80

A. $x = 2, y = 4$
B. $x = 2, y = 8$
C. $x = 2.5, y = 4$
D. $x = 2.5, y = 8$

5. Printer A took 8 minutes to print a 92-page document. Printer B took 5 minutes to print a 60-page document. Which statement is true?

A. Printer A prints more pages per minute
B. Printer B prints more pages per minute.
C. Printer A and Printer B print the same number of pages per minute.

6. The prices of four bottles of shampoo are shown below. Which bottle costs the least per ounce?

	Size (oz)	Price
A	10	$7
B	15	$9
C	16	$12
D	25	$18

A. Bottle A
B. Bottle B
C. Bottle C
D. Bottle D

7. In which table is the relationship between labor hours and cost proportional?

A.

Labor Hours	1	3	5
Cost ($)	75	225	375

B.

Labor Hours	1	2	3
Cost ($)	60	60	60

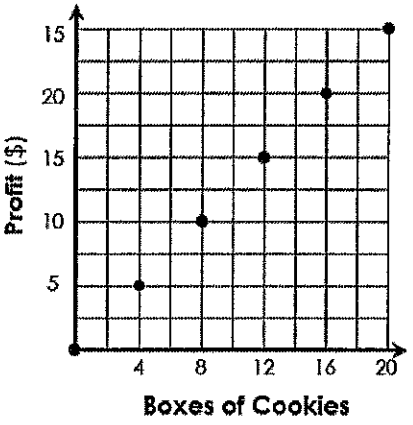
C.

Labor Hours	1	4	8
Cost ($)	50	240	560

D.

Labor Hours	1	2	3
Cost ($)	80	150	240

8. The math club is selling boxes of cookies for a fundraiser. The graph below shows their profit on each box sold. What is their profit per box?



A. $0.80
B. $1.10
C. $1.25
D. $1.50

9. Ruby spent 28% of her paycheck paying bills. What fraction of her paycheck is left?

A. $\frac{13}{50}$
B. $\frac{37}{50}$
C. $\frac{7}{25}$
D. $\frac{18}{25}$

10. Of the 320 sixth grade students, 192 buy their lunch each day. What percent buy their lunch?

A. 40%
B. 60%
C. 65%
D. 70%

11. Four students are reading the same book. The table below gives the portion of the book that each has read so far. Which student has read the most?

Ryan	Zena	Evelyn	Grady
$\frac{13}{20}$	8%	0.7	$\frac{5}{8}$

A. Ryan
B. Zena
C. Evelyn
D. Grady

12. What is 4% of 80? Write your answer in the box.

13. Ben's cell phone bill is typically $150. This month, it was 120% his typical bill. What is Ben's cell phone bill this month?

A. $30
B. $80
C. $180
D. $200

14. A waiter earned a 16% tip on a $45 dinner bill. How much was the waiter's tip?

A. $7.20
B. $7.50
C. $7.80
D. $8.20

15. Which list gives the numbers in order from least value to greatest value?

A. $\left\{-2\frac{1}{4}, -2.085, -2\frac{9}{10}, -2.716\right\}$
B. $\left\{-2.716, -2\frac{9}{10}, -2.085, -2\frac{1}{4}\right\}$
C. $\left\{-2.085, -2\frac{1}{4}, -2.716, -2\frac{9}{10}\right\}$
D. $\left\{-2\frac{9}{10}, -2.716, -2\frac{1}{4}, -2.085\right\}$

Unit 7

Circumference of Circes

measures the length outside the circle

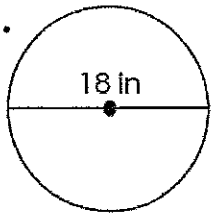
Formula:

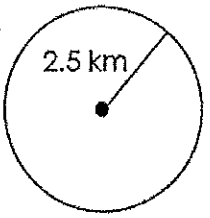
$C = 2\pi \cdot r$

(3.14) radius, half the circle to center

Date:

Find the circumference of each circle. Use 3.14 for pi.

1. 

2. 

3. A wheel has a diameter of 45 centimeters. How many centimeters will the wheel travel if it rotates 5 times?

Unit 7

Area of Circles

- measures amount of space the circle takes

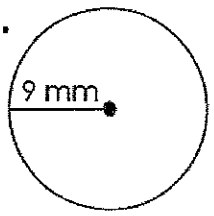
Formula

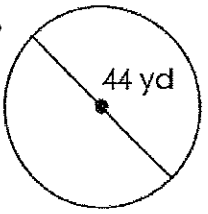
$A = \pi r^2$

radius times itself.

Date:

Find the area of each circle. Use 3.14 for pi.

1. 

2. 

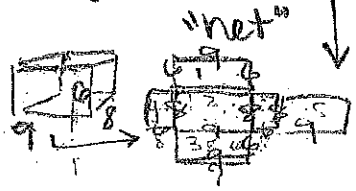
3. A signal on a cell phone tower can reach a maximum radius of 30 miles. How many more square miles will the signal reach if the technology is updated to reach a 45-mile radius?

Unit 7

Surface Area: Review

SA: Create a "net" and find the area of each and add all together

ex



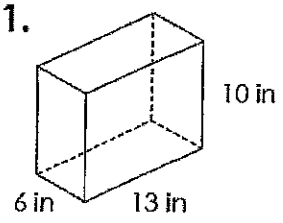
6x9=54
8x6=48
9x6=54
8x6=48
9x8=72
9x8=72

2(72)+2(48)+2(54) = 348 m²

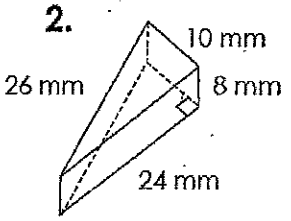
Date:

Draw a net and find the surface area of each figure.

1.



2.



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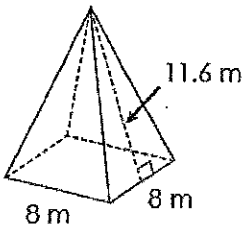
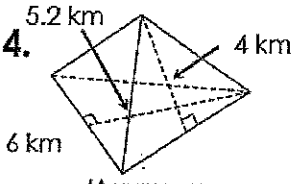


4.



(Assume an equilateral base.)

Unit 7

Area of Composite Figures

Find the 2 figures. Find each area and add.

□ or ▭ = l×w

trapezoid ⏢ = $\frac{1}{2}h(b_1+b_2)$

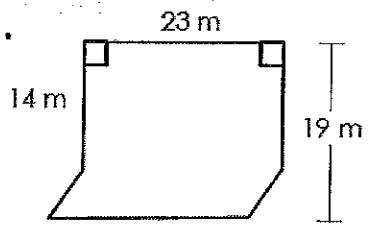
△ = $\frac{1}{2}b \cdot h$

▱ = $b \cdot h$

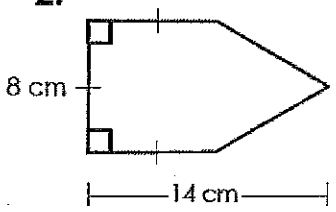
Date:

Find the area of each figure.

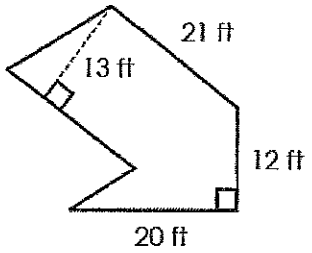
1.



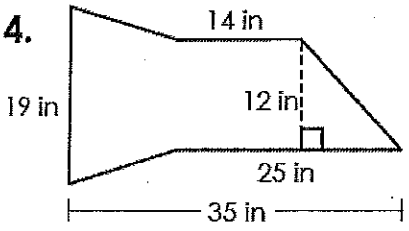
2.



3.



4.



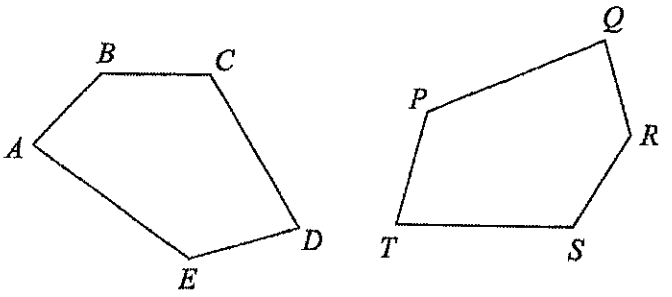
Math 6 Review

QUIZ 5

Name: _____

Date: _____ **Per:** _____

1. If the two figures below are congruent, complete the statement below.

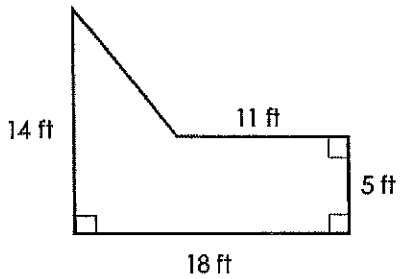


$\overline{AB} \cong$ ☐

2. Lance is enclosing a rectangular garden with fencing. If the perimeter of the garden is 30 meters, check the two measurements that could represent the dimensions of the garden.

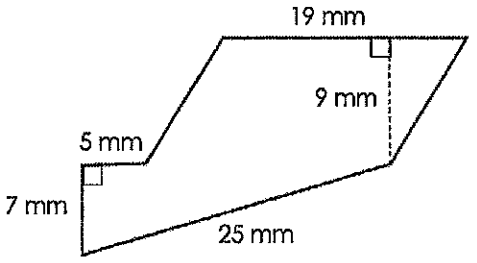
☐ 3 meters	☐ 6 meters
☐ 4 meters	☐ 8 meters
☐ 5 meters	☐ 11 meters

3. Find the area of the figure below.



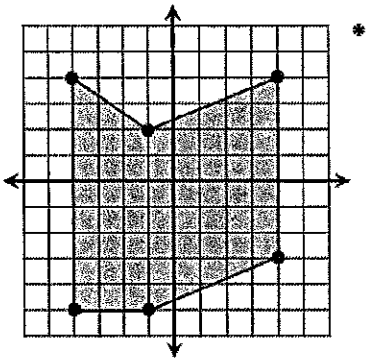
A. 108 ft²
B. 114.5 ft²
C. 121.5 ft²
D. 132 ft²

4. Find the area of the figure below.



A. 232.5 mm²
B. 242 mm²
C. 255 mm²
D. 258.5 mm²

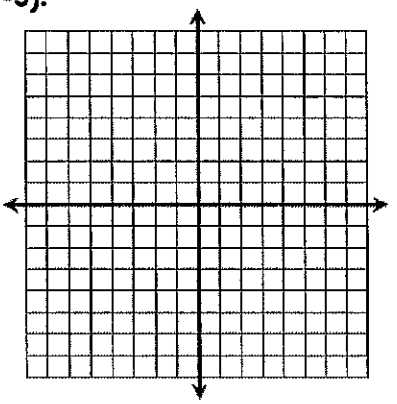
5. Find the area of the figure below.



* ☐ = 1 square mile

A. 55 mi²
B. 59 mi²
C. 62 mi²
D. 67 mi²

6. Using the graph below, find the area of a triangle formed by the points (-2, 0), (6, 8), and (6, -5).



A. 56 square units
B. 48 square units
C. 39 square units
D. 52 square units

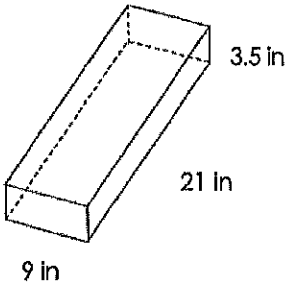
7. The minute-hand on a large clock is 18 inches long. Which is closest to the distance the tip of the hand will travel in one rotation?

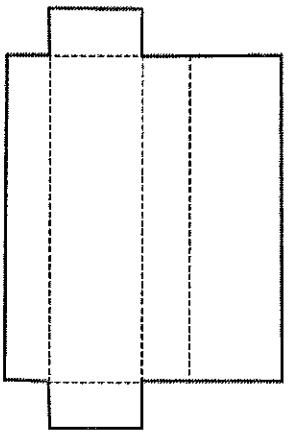
A. 56.52 inches
B. 74.68 inches
C. 113.04 inches
D. 128.36 inches

8. A circular rug has a diameter of 7 feet. Which is closest to the amount of fabric used to make the rug?

A. 38.5 ft^2
B. 51.2 ft^2
C. 104.1 ft^2
D. 153.9 ft^2

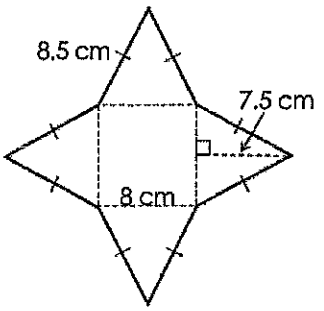
9. A rectangular prism and its net are shown below. What is the total surface area of the prism?





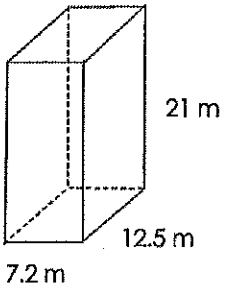
A. 554 in^2
B. 570 in^2
C. 583 in^2
D. 588 in^2

10. The net of a square pyramid along with its dimensions are shown below. What is the total surface area of the pyramid?

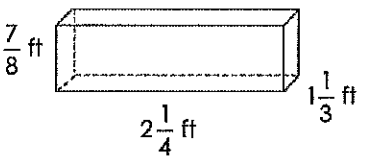


A. 480 cm^2
B. 216 cm^2
C. 200 cm^2
D. 184 cm^2

11. What is the volume of the rectangular prism below? Write your answer in the box.



12. A flower box in the shape of a rectangular prism along with its dimensions are given below. What is the maximum amount of soil the box can hold without overfilling it?



A. $2\frac{1}{2}$ ft^3
B. $2\frac{5}{8}$ ft^3
C. $2\frac{3}{4}$ ft^3
D. $2\frac{7}{12}$ ft^3

: Unit 8

Measures of Center & Range

mean: average

$\frac{\text{sum of all data values}}{\text{\# of data values}}$

Median: middle value after ordering least to greatest; even? then average 2 middle #s

Mode: occurs most often in data set

Range: difference (−) between largest and smallest values.

Date:

Find the mean, median, mode(s) and range of each data set:

1. {27, 32, 40, 47, 60, 18, 32, 24, 35}

Mean = _____ Median = _____ Mode(s) = _____ Range = _____

2. {11, 14, 4, 19, 13, 20, 18, 21}

Mean = _____ Median = _____ Mode(s) = _____ Range = _____

3. {5, 9, 20, 5, 26, 17, 7, 20, 15, 6}

Mean = _____ Median = _____ Mode(s) = _____ Range = _____

Unit 8

Outliers & Effects on Data

Outlier: data point that is much larger or smaller than the other values.

Best Center

mean: no outliers
median: outliers, middle of data has no big gaps.
mode: data has many repeated values.

effects on data

how our measures change based on outliers.

Date:

Use for questions 1-3: A bus driver records the number of students on his bus each day before dropping them off at school. This week, there were 65, 56, 21, 60, and 63 students recorded.

1. What is the outlier? Predict whether the mean or median would be affected most by removing the outlier.

2. Find the mean, median, and range with and without the outlier.

3. Which measure of center is affected the most? _____

4. Mrs. Lincoln gave a quiz to her science students. If each student receives a 3-point bonus, how will this affect the mean, median, mode, and range of the scores?

Unit 8

"MAD" Mean Absolute Deviation

- A measure that gives the average distance of each data value to the mean.

Step 1: Find the mean.
Step 2: Find the distance of each value to the mean.
Step 3: Find the mean of the distances.

The closer the "MAD" is to 0, the less variation.

Date:

Find the mean absolute deviation of each data set:

1. The wing spans, in inches, of six birds:
   {64, 45, 80, 42, 57, 30}

2. The weight, in pounds, of five frozen turkeys at the store: **{12.4, 9.3, 16.4, 14.2, 17.7}**

Unit 8

Circle Graphs

(pie chart)

- each section is a % (part of 100)
- whole circle = 100%

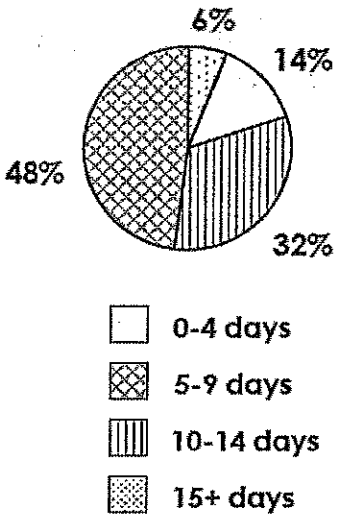
Date:

The circle graph shows the number of days in a group of 250 students were absent this past school year.

1. How many students were absent 5-9 days?

2. How many students were absent at least 10 days?

3. How many students were absent less than 15 days?



Math 6 Review

QUIZ 6

Name: _____

Date: _____ Per: _____

1. If 26 is added to the list of numbers below, which measures will not change? Check all that apply.

{7, 11, 15, 15, 22}

- ☐ Mean
- ☐ Mode
- ☐ Median
- ☐ Range

2. The data below represent the number of students in 8 classes. Which measure is the greatest?

{25, 23, 32, 19, 28, 29, 23, 21}

A. mean
B. median
C. mode
D. range

Use for questions 3 and 4: Employees at a company were invited to participate in a 3-month-long weight loss challenge. The stem-and-leaf plot below shows the number of pounds each participant lost.

Stem	Leaf
0	5 9
1	0 2 2 5 5 6 8 9
2	0 0 1 3 7
3	1 4

Key: 3 | 4 = 34 pounds

3. What is the median number of pounds lost?

A. 15
B. 16
C. 17
D. 18

4. What is the range? Write your answer in the box.

☐

5. The list below represents the heights, in inches, of nine books lined up on a shelf. Which action will cause the median height to increase but the range of heights to remain the same?

{6, 7, 7, 8, 8, 10, 12, 14, 16}

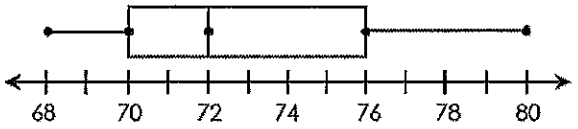
A. removing the shortest book
B. removing the tallest book
C. adding another book that is 6 inches tall
D. adding another book that is 16 inches tall

6. Jaxson is a customer service specialist for a cable company. The data below represents the length, in minutes, of his last six service calls. What is the mean absolute deviation for this set of data?

{12, 53, 25, 37, 20, 45}

A. 13
B. 14
C. 15
D. 16

7. The box-and-whisker plot below represents the golf scores by a group of golfers. Which list could represent the individual scores?



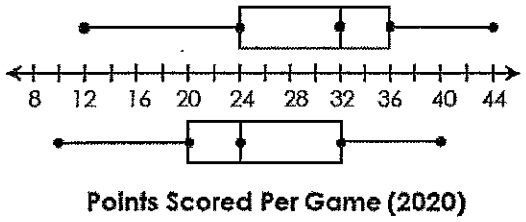
A. {68, 70, 70, 72, 74, 74, 78, 80}

B. {68, 70, 72, 72, 72, 74, 76, 80}

C. {68, 69, 71, 72, 72, 74, 76, 80}

D. {68, 69, 71, 71, 73, 74, 78, 80}

8. The box-and-whisker plot below shows the number of points scored by a football team in each game in their 2019 season compared to their 2020 season. Which measure is the same for both seasons?



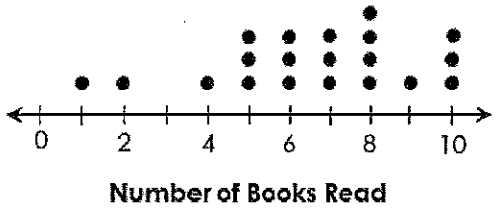
A. median

B. lower quartile

C. range

D. interquartile range

9. The dot plot below shows the number of books read by a group of 20 students over the summer. Which statement is true?



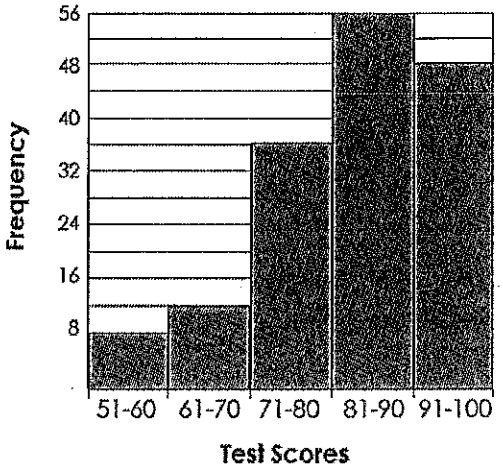
A. median = 6, interquartile range = 3

B. median = 6, interquartile range = 4

C. median = 7, interquartile range = 3

D. median = 7, interquartile range = 4

10. Mr. Abrams gave a test to his math students. The histogram below represents the distribution of scores. What percent of his students had a score that was at most 80?



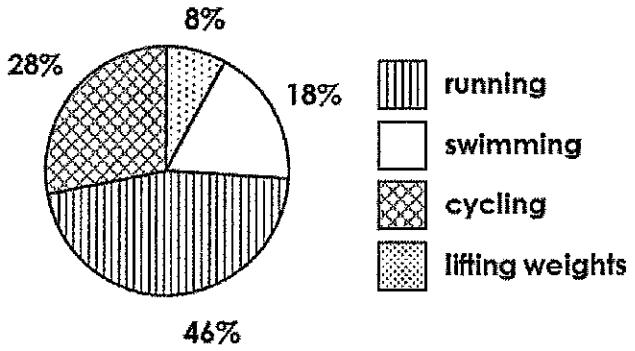
A. 30%

B. 35%

C. 40%

D. 45%

Use for questions 11 and 12: Beth exercised for 350 minutes last week. The circle graph below represents the amount of minutes she spent running, swimming, cycling, and lifting weights.



11. How many minutes did she spend cycling?

A. 92

B. 98

C. 104

D. 112

12. In which two activities did she spend exactly 189 minutes?

A. swimming and running

B. cycling and running

C. swimming and cycling

D. lifting weights and running