Find the place and the value of the underlined digit.

1. 7<u>8</u>1 _____

2. 5,<u>9</u>07 _____

3. <u>8</u>,005 _____

4. <u>5</u>9,772 _____

5. 96<u>8</u>,062 _____

6. <u>7</u>08,000 _____

7. 4,<u>8</u>67,009 _____

8. <u>6</u>,089,265 _____

9. 2<u>3</u>4,987,667,030 _____

10. <u>3</u>56,498,022,551 _____

Write the word name.

11. 865 _____

12. 1,378 _____

13. 46,972 _____

14. 412,087 _____

15. 5,906,551 _____

16. 9,032,013 _____

Write the number.

17. 298 thousand, 216 _____

18. 5 million, 21 thousand _____

19. 6 billion, 3 thousand, 14 _____

20. 24 billion, 66 _____

21. two hundred sixty-seven thousand,

   fifty _____

22. thirty-two million, ten thousand,

   five _____

23. sixty-one billion, three hundred million, one hundred four

_____

24. four hundred billion, three hundred thirteen million, seven

_____

25. Copy and fill out the blank check. Use the information provided.

Ted Blanton
3 Parkwood Drive
Albany, NY 12206

No. _____

_____ 19 _____

Pay to the order of _____ $ _____

_____ dollars

Granite National Bank

Memo _____   *Ted Blanton*

⑆ 45622 6 8 9⑆ 00002 40370⑈

Amount: $48.85
Date: 3-11-89
Check number: 789
Memo: ski poles
Pay to: Valley Ski Shop

Copy and complete the table. Does the number tell "how many," "how much," "where," "when," or "which one"? Then classify the number as a code, count, measure, or location.

Use	Question	Classification
July 4, 1776	1.	2.
$101.89	3.	4.
45 Senators	5.	6.
6A-9786	7.	8.
78th Street	9.	10.
397 Miles	11.	12.
Longitude	13.	14.
4,582 Microchips	15.	16.
Account number	17.	18.
June 27	19.	20.

Use the bill to classify the number.

21. 4 _____

22. 8.79 _____

23. 296741896 _____

24. 57 _____

25. 12-5-89 _____

Northward Sporting Goods

Mark Ponzio   Acct. No. 409-6831-98
57 Apple Road
Waitsfield, VT 05673

Date	Reference	Quantity	Amount
11-19-89	877402951	4	57.90
11-26-89	640593750	2	15.89
12-5-89	487629019	1	8.79
12-8-89	296741896	3	68.49

Solve.

26. Record store 9 first opened on April 20, 1977. That day it sold 64 records for $6.99 each. Which number is a code?

27. The record Tracey bought has 9 songs on it. All the songs were recorded in 1988. Which number is a location?

28. In 1989, most records cost about $8. Most CDs cost about $15. In 1969, most records cost about $4. Which numbers are measures?

29. On May 4, Tracey paid $8.99 for a record. The address of the store was 58 Main Avenue, Englewood, NJ 07631. Which number is a measure?

Exponential Functions Review

Ms. Deciga
adecigasanchez@mpisd.net
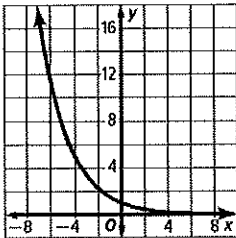Ms. Ramirez nramirez@mpisd.net
Mrs. Orona rorona@mpisd.net
Mr. Gonzalez rgonzalez@mpisd.net

Exponential Growth and Decay Formula:

Initial Starting Value or y-intercept

# of times it grows or decays

$$y = ab^x$$

Growth/Decay Factor

1. What is the domain of the exponential function $f(x) = 14(0.8)^x$?

   A $y > 0$

   B $x \in R$

   C $x \geq 0$

   D $x \geq 14$

2. The graph of $y = \left(\frac{2}{3}\right)^x$ is shown below.

   What is the range of $y = \left(\frac{2}{3}\right)^x$?

   A $x \in R$

   B $0 \leq y < 1$

   C $y \geq 1$

   D $y > 0$

3. The population of a small town can be modeled by the exponential function $P = 14,512(1.03)^t$, where t is the number of years after 2005. What is the significance of the value 14,512?

   A There are 14,512 people in the town today.

   B Each year, the population increases by 14,512.

   C There are 14,512 people in the town in 2005.

   D There will never be more than 14,512 people in the town.

4. At a constant temperature of 15°C, the barometric pressure can be approximated by the formula $P = 1013.25(0.89)^x$, where x is the altitude above sea level, measured in kilometers. Which of the following statements bests describes how the pressure is changing?

   F The pressure increases by 11% every for every addition km above sea level.

   G The pressure increases by 89% every for every addition km above sea level.

   H The pressure decreases by 89% every for every addition km above sea level.

   J The pressure decreases by 11% for every additional km above sea level.

5. The number of bacteria in a culture is given by the equation $N = 8 \cdot 4^t$, where t is measured in hours. How many bacteria were present initially?

   F 8

   G 4

   H 32

   J 2

6. What statement best describes the equation $P = 25(1.4)^t$ if t is measured in months?

   A Initially, the value of P is 1.4 and P is increasing by 25% each month.

   B Initially, the value of P is 1.4 and P is increasing by 25 each month.

   C Initially, the value of P is 25 and P is increasing by 140% each month.

   D Initially, the value of P is 25 and P is increasing by 40% each month.

Exponential Functions Review

7.

A culture starts with 20 bacteria and triples every hour. Write a formula for the number N of bacteria after t hours.

A $N = 20 + 3t$

B $N = 20 \cdot 3^t$

C $N = 3 \cdot 20^t$

D $N = 20 \cdot 4^t$

8.

Bismuth-210 is an isotope and it decays by about 13% each day. A sample initially has a mass of 150 mg. Which represents the amount A after t days?

A $A = 150(1.13)^t$

B $A = 150(0.13)^t$

C $A = 150(0.87)^t$

D $A = 210(0.87)^t$

9.   Use the table below to find an equation for $f(x)$. Assume that $f(x)$ is an exponential function.

x	$y = f(x)$
0	150
1	450
2	1350
3	4050

F $f(x) = 150 \cdot 3^x$

G $f(x) = 150 + 300x$

H $f(x) = 150\left(\dfrac{1}{3}\right)^x$

J $f(x) = 4050\left(\dfrac{1}{3}\right)^x$

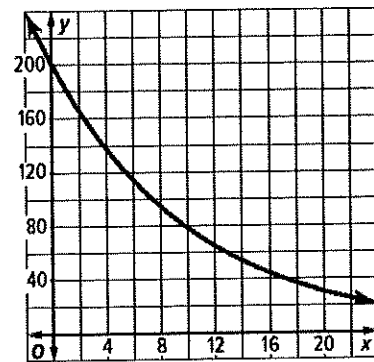10.   Use the table below to find $f(x)$. Assume that $f(x)$ is an exponential function.

x	$y = f(x)$
0	800
1	400
2	200
3	100

A $f(x) = 400 \cdot \left(\dfrac{1}{2}\right)^x$

B $f(x) = 800 \cdot 2^x$

C $f(x) = 800\left(\dfrac{1}{2}\right)^x$

D $f(x) = 100 \cdot 2^x$

11.   The graph of $y = 200(0.91)^x$ below models the amount y of a drug x hours after it is injected into a patient. What is the y-intercept?

A (0, 0)

B (0, 0.91)

C (0, 182)

D (0, 200)

GEOMETRY
FINAL EXAM REVIEW

I.   MATCHING

_____reflexive
_____transitive
_____symmetric
_____substitution
_____distributive
_____definition of midpoint
_____midpoint theorem

_____segment addition postulate

A. a(b + c) = ab + ac

B. If a = b & b = c, then a = c.

C. If D lies between A and B, then AD + DB = AB.

D. If a = b, then b = a.

E. a = a

F. If D is the midpoint of $\overline{AB}$, then AD = $\frac{1}{2}$AB.

G. If a + b = c and a = d, then d + b = c.

H. If D is the midpoint of $\overline{AB}$, then AD = DB.


II. Fill in the blank.

1.   An equilateral triangle is also a(n) _____triangle.

2.   The _____ is the longest side of a right triangle.

3.   Similar triangles have congruent corresponding _____ and the corresponding _____ are in proportion.

4.   In an isosceles triangle, the _____ angle is the angle that is different.

5.   The _____ of a triangle is a segment from a vertex to the midpoint of the opposite side.

6.   A(n) _____ of a triangle is a segment from a vertex ⊥ to the opposite side.

7.   A(n) _____ _____ of a segment is a line, segment, or ray ⊥ to a segment at its midpoint.

8.   The measure of a central angle is _____ to its intercepted arc.

9.   Two _____ angles have a sum of 90°.

10. Two _____ angles have a sum of 180°.

11. A _____ has only 1 endpoint.

12. If two lines are _____, they form right angles.

13. Two lines intersect in a _____.

14. Two planes intersect in a _____.

15. Through any three collinear points there are _____ _____.
     Through any three non-collinear points there is _____ _____ _____.

16. _____ angles measure between 0° and 90°.

17. _____ angles measure between 90° and 180°.

18. Find the side of square with area 16 units². _____.

19. If the ratio of the measures of the angles of a triangle is 2:2:5, then the triangle is a(n) _____ triangle.

20. If 4 points all lie on the same line, then the points are _____.

ΔXYZ is an equilateral triangle.

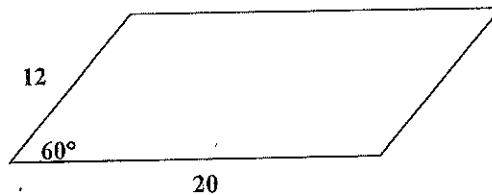21. ZY = _____

22. m∠Z = _____

23. altitude = _____

Z

X   8ft   Y
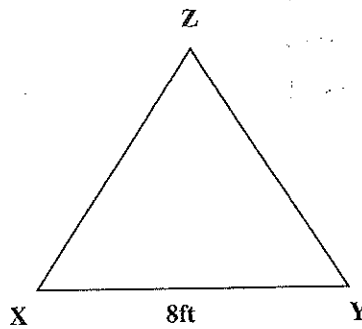
24. Area of Circle = _____
25. Area of Square = _____
26. Area of shaded region = _____
27. Circumference of Circle = _____
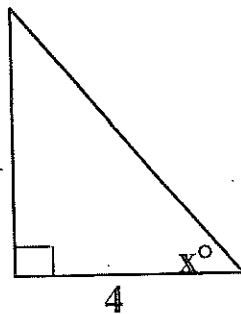28. Perimeter of Square = _____
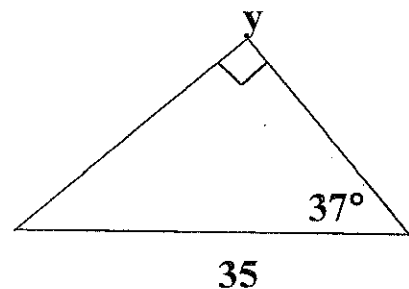
5
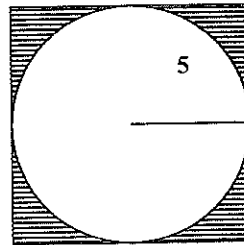
29. Area of parallelogram = _____

12

60°

20

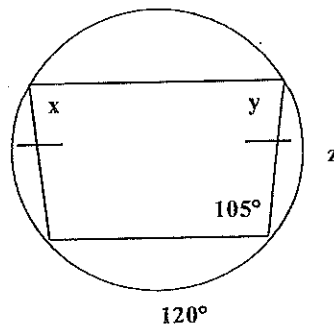Round your answer to the nearest whole number or degree.

30. Find x ≈ _____

31. Find y ≈ _____

6.1

4   x°

y

37°

35

32. A ladder is positioned against a house at a 65° angle. The ladder is 10 feet tall. How far away from the house is the base of the ladder? Round your answer to the nearest tenth.

33. x = _____
34. y = _____
35. z = _____

x   y   z

105°

120°

Adding and Subtracting Polynomials Algebra 2 Review

Define these key words.
1. Like terms

2. Monomial

3. Binomial

4. Trinomial

5. Polynomial

6. Simplest form

Example 1
Label each set of terms as a monomial, binomial, trinomial, or polynomial:
1. $3x + 4y$

2. $8x^3 - 4y^4 - 7$

Example 2
Simplify.
3. $4x^3 + 6x^3 + 2x^2 + x^2$ 4. $5x^3 - 2x^2 + 3x^3 - 1$

Example 3
Add.
5. $(6 - 2x + 4x^2) + (7x^2 + 5x - 1)$

6. $(4x - 2x^2 - 7xy) + (2x^2 + 5xy)$

7. $(3x^2 - 2xy + 2) + (4x^2 + 7xy - 5)$

<u>Example 4</u>
Subtract.

8. $(11x^3 - 21x^2 + 5x - 13) - (9x^3 - 14x^2 + 8x - 17)$

9. $(9y^5 - 3y^3 + y - 5) - (-13y^3 + 4y^4 + 7 + 9y)$

Algebra2/Pre-Calculus Assignment7

J. Blackstone email: jblackstone@mpisd.net   T. Rolf email: trolf@mpisd.net

H. Campbell email: hcampbell@mpisd.net   C. Berend email: cberend@mpisd.net

Topic: Direct/Indirect Variation

**Resources:** Khan Academy "Direct Variation 1"

https://www.youtube.com/watch?v=rSadG6EtJmY&t=19s

Khan Academy "Inverse Variation Application"

https://www.youtube.com/watch?v=IkP-E2LUnjA

Examples:

The time T required to do a job varies inversely as the number of people P working. It takes 5 hr for 7 bricklayers to build a park wall. (See the graph below.) How long will it take 10 bricklayers to complete the job?
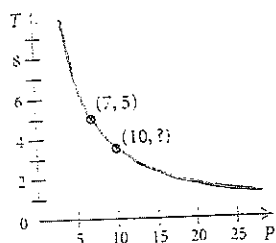
First find k

$$T = \frac{k}{P}$$

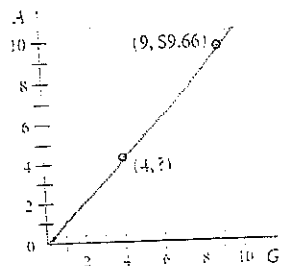$$7 \cdot 5 = \frac{k}{7} \cdot 7$$

$$k = 35$$

Then use k

$$T = \frac{k}{P}$$

$$T = \frac{35}{10}$$

$$T = 3.5 \text{ hr}$$

Exercises

14. According to Fidelity Investments *Investment Vision Magazine*, the average weekly allowance A of children varies directly as their grade level G. It is known that the average allowance of a 9th-grade student is $9.66 per week. What then is the average allowance of a 4th-grade student?

15. The maximum number of grams of fat that should be in a diet varies directly as a person's weight. A person weighing 120 lb should have no more than 60 g of fat per day. What is the maximum daily fat intake for a person weighing 180 lb?

16. The time t required to drive a fixed distance varies inversely as the speed r. It takes 5 hr at a speed of 80 km/h to drive a fixed distance. How long will it take to drive the same distance at a speed of 70 km/h?
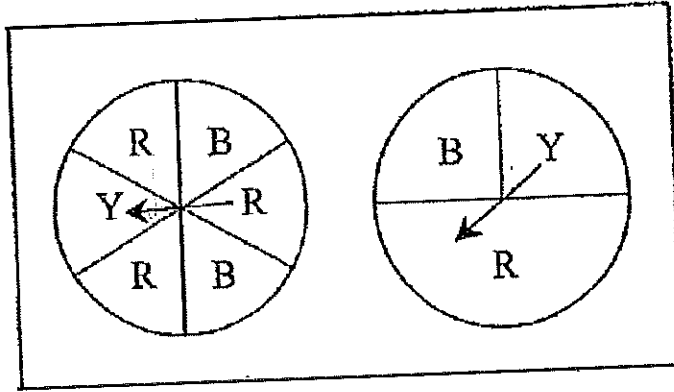
Name_____Period_____

Probability – Unequally Likely Outcomes

1. The spinner on the left is spun once, and then the spinner on the right is spun once.

   a. Create a tree diagram and area model that accurately displays ALL outcomes and probabilities.

TREE DIAGRAM:

AREA MODEL:

b. What is the probability that both spinners show blue? Justify your answer.

c. What is the probability that both spinners show the same color? Justify your answer.

2. A pencil box has three yellow pencils, one blue, and two red pencils. There are also two red erasers and one blue.

   a. Create a tree diagram and area model that accurately displays ALL outcomes and probabilities.

TREE DIAGRAM:

AREA MODEL:

   b. If you randomly choose one pencil and one eraser, what is the probability of getting the red-red combination? Justify your answer.

AP Statistics Mrs. Russell

Info for at Home Assignments

Week 7

Hi guys! I hope everything went well last week. I will be sending your assignments this week and all following weeks on Remind and on your email. Please be sure to check both places regularly for messages from me.

Have a great week! Stay healthy!

Mrs. Russell

Dual Credit Algebra II Mrs. Russell

Info for at Home Assignments

Week 7

Hi guys! I hope everything went well last week. All of our assignments will now be located in MyMathLab. You will need to be sure that you are checking MML, Remind, and your email (the one that you set up in MML for our communications) REGULARLY for messages for me. Please be sure that you are watching the deadlines for your assignments.

Have a great week! Stay healthy!

Mrs. Russell