

May 13, 2019, Monday

On-level Geometry Final Exam Study Guide

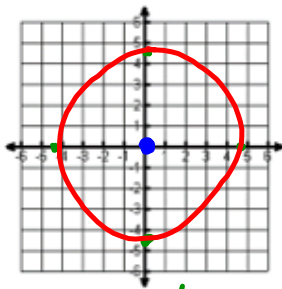
Name \_\_\_\_\_ S \_\_\_\_\_

Graph the following circles. State the center and radius.

1)  $x^2 + y^2 = 20$

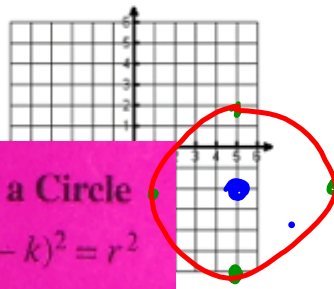
$\sqrt{r^2} = \sqrt{20}$   
 $r = 4.5$

Center: (0,0) & Radius: 4.5

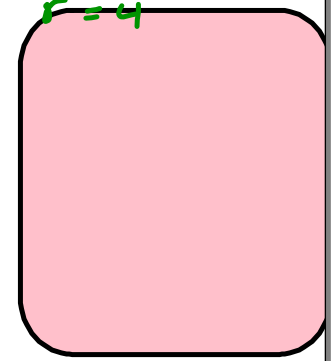


2)  $(x-5)^2 + (y+2)^2 = 16$

Center: (5,-2) & Radius: 4



$\sqrt{r^2} = \sqrt{16}$   
 $r = 4$



Equation of a Circle

$(x-h)^2 + (y-k)^2 = r^2$

Write the standard equation for the circle. State the center and radius.

3)  $x^2 + y^2 - 14x + 4y - 11 = 0$

$x^2 - 14x + y^2 + 4y = 11$   
 $(x-7)^2 + (y+2)^2 = 11 + 4$   
 $(x-7)^2 + (y+2)^2 = 15$

4)  $x^2 + y^2 - 8x + 4y - 6 = 0$

$x^2 - 8x + y^2 + 4y = 6$   
 $(x-4)^2 + (y+2)^2 = 6 + 14$   
 $(x-4)^2 + (y+2)^2 = 20$

1) group the x's, y's & move the constant ✓

2) complete the square for the x's & y's ✓

3) keep the equation balanced.

<https://www.mathplayground.com/division01.html>

<https://www.mathplayground.com/division01.html>



https://www.mathplayground.com/division01.html

1st Grade 2nd Grade 3rd Grade 4th Grade 5th Grade 6th Grade

Computation Practice

### Division Facts

$9 \overline{) 36}$  ?

Correct Answer:

Start

IXL Learning, Inc [US] <https://www.multiplication.com/quiz/division-self-correcting-quizzes>

Enter answer with keyboard or touch pad

Advertisement

### Division Equation Family Quizzes

(All equation for the fact group)

Pre-Test 1 2 3 4 5

Sixes 7 8 9 Post-Test

### Division Up Through Quizzes

(All equation UP THROUGH the fact group)

Pre-Test 1 2 3 4 5

Sixes 7 8 9 Post-Test

② If you were having trouble select the correct # to practice, if no trouble

③

~~May 14, 2019, Tuesday~~

May 15, 2019 Wednesday

- 5) A circular disk drive has a diameter with endpoints at  $(-9, 2)$  and  $(15, 12)$ . Find the center and radius of the disk drive. Write the equation of the circle in standard form, then convert it to general form.

$$(x-h)^2 + (y-k)^2 = r^2$$

Midpoint  $(\frac{-9+15}{2}, \frac{2+12}{2})$   
 $(3, 7)$

$$d = \sqrt{(15-3)^2 + (12-7)^2}$$

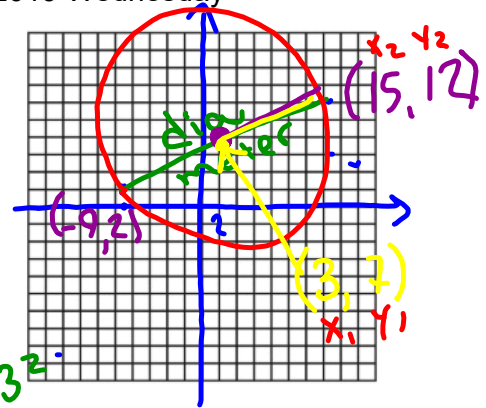
$$d = 13$$

$$(x-3)^2 + (y-7)^2 = 13^2$$

$$(x-3)(x-3) + (y-7)(y-7) = 169$$

$$x^2 - 3x - 3x + 9 + y^2 - 7y - 7y + 49 = 169$$

$$x^2 + y^2 - 6x - 14y - 111 = 0$$



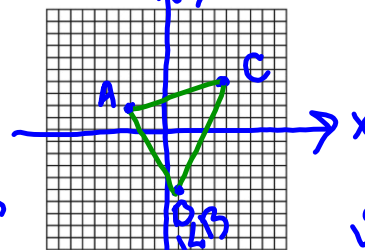
- 6) Find the point that partitions the line segment in a 1:1 ratio with endpoints  $(8, 4)$  and  $(-5, -7)$ .

$$(x, y) = (x_1 + \frac{a}{a+b}(x_2 - x_1), y_1 + \frac{a}{a+b}(y_2 - y_1))$$

$$(8 + \frac{1}{1+1}(-5-8), 4 + \frac{1}{1+1}(-7-4))$$

$$(1.5, -1.5)$$

- 7) Find the perimeter of the triangle with the vertices  $(-3, 2)$ ,  $(1, -5)$ , and  $(5, 4)$ .



$d_{AB} = 8.1$      $d_{BC} = 9.8$      $d_{AC} = 8.3$   
 $d_{AB} + d_{BC} + d_{AC}$   
 $8.1 + 9.8 + 8.3 = 26.2$

<http://www.thegreatmartinicompany.com/Math-Quick-Quiz/division-quiz.html>

**Division Quiz**

- |                                     |                                      |
|-------------------------------------|--------------------------------------|
| 1. $28 \div 4 = \square \square$    | 11. $77 \div 7 = \underline{\quad}$  |
| 2. $48 \div 12 = \underline{\quad}$ | 12. $108 \div 9 = \underline{\quad}$ |
| 3. $24 \div 6 = \underline{\quad}$  | 13. $56 \div 7 = \underline{\quad}$  |
| 4. $48 \div 6 = \underline{\quad}$  | 14. $32 \div 8 = \underline{\quad}$  |
| 5. $36 \div 9 = \underline{\quad}$  | 15. $20 \div 4 = \underline{\quad}$  |
| 6. $12 \div 6 = \underline{\quad}$  | 16. $14 \div 2 = \underline{\quad}$  |
| 7. $90 \div 9 = \underline{\quad}$  | 17. $66 \div 6 = \underline{\quad}$  |
| 8. $10 \div 5 = \underline{\quad}$  | 18. $1 \div 1 = \underline{\quad}$   |
| 9. $35 \div 5 = \underline{\quad}$  | 19. $18 \div 6 = \underline{\quad}$  |
| 10. $40 \div 8 = \underline{\quad}$ | 20. $27 \div 9 = \underline{\quad}$  |

Famous Mathematicians selections:

Pick 4 names of mathematics you would be interested in performing research on for the "Famous Mathematicians" project.

Write the numbers 1-4 on your hand out and return to me!

## Famous Mathematicians

Brahmagupta	Madhava
Carl Friedrich Gauss	Pierre de Fermat
Charles Babbage	Pythagoras
Diophantus	Rene Descartes
Emmy Noether	Sophie Germain
Euclid	Thales
Fibonacci	Benjamin Banneker
George Boole	Charles Lewis Reason
Gottfried Leibniz	Kelly Miller
Grace Murray Hopper	Dudley Weldon Woodard
Isaac Newton	Martha Euphemia Lofton Haynes
John von Neumann	Elbert Frank Cox
John Wallis	William Waldron Schieffelin
Julia Robinson	Claytor
Leonhard Euler	Marjorie Lee Browne
Luca Pacioli	David Harold Blackwell

1) Select your top four name you are interested in learning more about.

2) I will (hopefully) choose one of your four to assign to you, so we can learn as about as many mathematicians as possible.

May 15, 2019, Wednesday

Change the following equations to general form of a circle, making sure it's in the correct order.

8)  $(x - 4)^2 + (y - 1)^2 = 9$

9)  $(x - 3)^2 + (y + 8)^2 = 25$

10) Find the equation of a line that is parallel to  $y = -\frac{3}{2}x + 3$  and passes through  $(-4, 5)$ .

11) Find the equation of a line that is perpendicular to  $y = \frac{1}{3}x - 7$  and passes through  $(12, -6)$ .

12) Circle C has a center of  $(3, 4)$  and a radius of 5. Does the point  $(0, 10)$  lie on circle C? Show your evidence (work).

Assign Famous Mathematicians

3) You will research the name you have been assigned to learn at least the following:

Date of birth

Date of death

Birthplace

Location lived as an adult

Where they died

Picture

Family structure (parents, husband/wife, children, etc.)

What was this person's biggest contribution to the field of mathematics?

What are three interesting facts about this person (not included in the above information).

4) You may present your information in the form of:

PowerPoint Slides, these will have to be printed for display

Word Documents, these will have to be printed for display

Legibly handwritten on large paper or multiple sheets

**\*\*Your work will be displayed for other to read about your mathematician, so make sure your work is neat.**

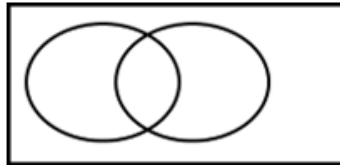
5) When you have completed you research, see me, so we can find a place on the wall to display your work! Include your name visibly on each page displayed!



May 16, 2019, Thursday

**Probability Review: Venn Diagrams, Tables, & Words**

- **Event A:** *Gale, Allen, & Dante like scary movies*
- **Event B:** *Allen, Tim & Laura like comedy movies*
- *Gina & Kellie don't prefer either of those 2 types*



- 13) List the **possible outcomes**, or *sample space* for  $A \cup B$ . \_\_\_\_\_
- 14) List the **outcomes** for  $A \cap B$ . \_\_\_\_\_
- 15) List the **outcomes** for  $A'$ . \_\_\_\_\_
- 16) Find  $P(B)$  \_\_\_\_\_      17) Find  $P(\overline{A \cup B})$  \_\_\_\_\_      18) Find  $P(A \cap B)$  \_\_\_\_\_

Display Famous Mathematicians

May 17, 2019, Friday

The table below represents a table about upperclassmen's suggestions for a class activity.

- 19) Find  $P(11\text{th})$  \_\_\_\_\_
- 20) Find  $P(\text{Dance})$  \_\_\_\_\_
- 21) Find  $P(10\text{th} \cup \text{Dance})$  \_\_\_\_\_
- 22) Find  $P(\text{Field Trip} \cap 11\text{th})$  \_\_\_\_\_
- 23) Find  $P(\overline{12\text{th}} \cap \overline{\text{Talent Show}})$  \_\_\_\_\_
- 24) Find  $P(10\text{th} | \text{Field Trip})$  \_\_\_\_\_
- 25) Find  $P(\text{Talent Show} | 10\text{th})$  \_\_\_\_\_

	Talent Show	Field Trip	Dance
10 <sup>th</sup>	4	8	2
11 <sup>th</sup>	5	3	6
12 <sup>th</sup>	2	1	9

**Mutually Exclusive vs Overlapping**

- 26) Which of the following are **mutually exclusive**?
  - A. Choosing a King or a Diamond in a deck of cards
  - B. Choosing a band student or math student in a classroom
  - C. Rolling 2 dice and getting an even sum or a sum less than 7
  - D. Choosing a Jack or a 5 in a deck of cards

## Amusement Park Project

