

December 17, 2018 Monday

1) What is the center and the radius of the circle whose equation is  $(x+3)^2 + y^2 = 12$

$C: (h, k) = (-3, 0)$   
 $r: 3.4$

2) Convert the following to slope-intercept form of a line:  $y = mx + b$

$$-3x + 6y = 18$$

$$+8x \quad +3x$$

$$6y = 3x + 18$$

$$y = \frac{3x + 18}{6}$$

$$y = \frac{3x}{6} + \frac{18}{6}$$

$$y = \frac{1}{2}x + 3$$

3) Use the following function:

 $f(x) = 2x^2 + 8x - 24$ 

$f(6) =$

 $f(6) = 2(6)^2 + 8(6) - 24$ 
 $f(6) = 2(36) + 48 - 24$ 
 $f(6) = 72 + 48 - 24$ 
 $f(6) = 96$ 

$(x-h)^2 + (y-k)^2 = r^2$   
 $r^2 = 12$   
 $r = 3.4$

Your semester exam is Wednesday!

Dec 13-3:35 PM

Geometry - Final Review May 2017

1.  $x + y^2 = 20$

Center: \_\_\_\_\_ Radius: \_\_\_\_\_

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

Center: \_\_\_\_\_ Radius: \_\_\_\_\_

Convert the following circle equations to general form  $(Ax^2 + By^2 + Cx + Dy + E = 0)$

3.  $(x-9)^2 + (y+2)^2 = 64$

4.  $x^2 + 6y + 2y^2 = 26w$

5. A circular disk drive has a diameter with endpoints at  $(0, 2)$  and  $(8, 2)$ . Find the center and radius of the disk drive. Write the equation of the circle in standard form.

6. Find the point that partitions the line segment in a 1:1 ratio with the endpoints  $(0, 4)$  and  $(-5, -7)$ .

7. Find the perimeter of the triangle with the vertices  $(-3, 2)$ ,  $(1, -5)$ , and  $(5, 4)$ . Using the distance formula:  $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

Scanned by CamScanner

$Ax^2 + By^2 + Cx + Dy + E = 0$   $(x-h)^2 + (y-k)^2 = r^2$

Change the following equations to general form.

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

$(x-4)^2 + (y-1)^2 = 9$   
 $(x^2 - 8x + 16) + (y^2 - 2y + 1) = 9$   
 $x^2 - 8x + 16 + y^2 - 2y + 1 = 9$   
 $x^2 - 8x + y^2 - 2y + 17 = 9$   
 $x^2 - 8x + y^2 - 2y + 8 = 0$

Center:  $C: (h, k) = (4, 1)$   
 $r = 3$

18. 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).

$(x-3)^2 + (y-4)^2 = 25$   
 $(0-3)^2 + (10-4)^2 = 25$   
 $9 + 36 = 45$   
 $45 \neq 25$  NO

Probability Review: Venn Diagrams, Tables, & Words

Create a Venn Diagram for the following information.

- Event A: *Galaxy* & *Dante* like scary movies
- Event B: *Ellen* & *Laura* like comedy movies
- Class & *John* don't prefer either of these 2 types

1. List the outcomes (also known as the sample space) for  $A \cup B$ :  $A, G, D, T, L$

2. List the outcomes for  $A \cap B$ :  $T$

3. List the outcomes for  $A^c$ :  $T, L, G, K$

4. Find  $P(B)$ :  $\frac{3}{7}$

5. Find  $P(A \cap B)$ :  $\frac{1}{7}$

6. Find  $P(A \cup B)$ :  $\frac{4}{7}$

Probability =  $\frac{\text{favorable outcome}}{\text{all outcome}}$

$U = \text{UNION}$   
 $\cap = \text{INTERSECTION}$

Scanned by CamScanner

$Ax^2 + By^2 + Cx + Dy + E = 0$

Change the following equations to general form.

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

$(x-4)^2 + (y-1)^2 = 9$   
 $(x^2 - 8x + 16) + (y^2 - 2y + 1) = 9$   
 $x^2 - 8x + 16 + y^2 - 2y + 1 = 9$   
 $x^2 - 8x + y^2 - 2y + 17 = 9$   
 $x^2 - 8x + y^2 - 2y + 8 = 0$

$x + x = 2x$   
 $x^2 - 4x - 4x + 16 + y^2 - y - y + 1 = 9$   
 $x^2 - 8x + 17 + y^2 - 2y = 9$   
 $x^2 - 8x + 8 + y^2 - 2y = 0$   
 $x^2 + y^2 - 8x - 2y + 8 = 0$

$x^2 - 4x - 4x + 16 + y^2 - y - y + 1 = 9$   
 $x^2 - 8x + 17 + y^2 - 2y = 9$   
 $x^2 - 8x + 8 + y^2 - 2y = 0$   
 $x^2 + y^2 - 8x - 2y + 8 = 0$

$x + x = 2x$   
 $x^2 - 4x - 4x + 16 + y^2 - y - y + 1 = 9$   
 $x^2 - 8x + 17 + y^2 - 2y = 9$   
 $x^2 - 8x + 8 + y^2 - 2y = 0$   
 $x^2 + y^2 - 8x - 2y + 8 = 0$

$x^2 - 4x - 4x + 16 + y^2 - y - y + 1 = 9$   
 $x^2 - 8x + 17 + y^2 - 2y = 9$   
 $x^2 - 8x + 8 + y^2 - 2y = 0$   
 $x^2 + y^2 - 8x - 2y + 8 = 0$

Dec 17-12:10 PM

Term	Notation	Venn Diagram
Set C is a <b>subset</b> of set B if every element of C is also an element of B.	$C \subset B$	
The <b>intersection</b> of sets A and B is the set of all elements that are in both A and B.	$A \cap B$	
The <b>union</b> of sets A and B is the set of all elements that are in A or B.	$A \cup B$	
The <b>complement</b> of set A is the set of all elements in the universal set U that are not in A.	$A^c$ or $\sim A$	

Dec 17-10:24 AM

14. Which of the following are mutually exclusive?

A. Choosing a King or a Diamond in a deck of card  
 B. Choosing a hand student or math student in a c  
 C. Rolling 2 dice and getting an even sum or a sum  
 D. Choosing a Jack or a 5 in a deck of cards

The sum of 2 dice

16. P(even sum or a sum greater than 9):  $\frac{20}{36}$

17. P(even less than 7 or a sum greater than 10):  $\frac{18}{36}$

18. P(odd sum or a sum less than 8):  $\frac{27}{36}$

Calendar - A month is chosen from a year

19. Find the probability of choosing a month that begins with a vowel:  $\frac{3}{12}$

20. Find the probability of choosing a month starting with the letter M or J:  $\frac{2}{12}$

21. Find the probability of selecting a month that begins and ends with a consonant:  $\frac{4}{12}$

22. Find the probability of selecting a month that begins with a consonant and then selecting another month begins with a consonant (without replacement):  $\frac{2}{11}$

23. Find the probability of choosing a month that starts with a vowel given that the first letter is J:  $\frac{1}{12}$

PE Class Survey of 100 Students

24. Use the data in the table to decide if liking PE is independent of your gender.

Do you like PE?		Total	
Yes	No	Male	Female
38	12	50	50
31	19	50	50

NO!

Scanned by CamScanner

December 18, 2018 Tuesday  $(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2})$

$Ax^2 + By^2 + Cx + Dy + E = 0$

1) Change the following equations to general form.  $(x-4)^2 + (y-1)^2 = 9$   
 $(x-4)^2 + (y-1)^2 = 9$   
 $(x^2 - 4x + 4) + (y^2 - 2y + 1) = 9$   
 $x^2 - 4x + 4 + y^2 - 2y + 1 = 9$   
 $x^2 - 4x + y^2 - 2y + 5 = 9$   
 $x^2 - 4x + y^2 - 2y = 4$   
 $x^2 - 8x + 8 + y^2 - 2y = 0$   
 $x^2 + y^2 - 8x - 2y + 8 = 0$

2) Find the midpoint.  
 $x_1, y_1$  and  $x_2, y_2$   
 $(8, 4)$  and  $(-5, -7)$   
 $(\frac{8+(-5)}{2}, \frac{4+(-7)}{2}) = (\frac{3}{2}, -\frac{3}{2})$

3) Find the distance.  
 $A, B, C, D, E$   
 $(-3, 2), (1, -5)$   
 $d = \sqrt{(1-(-3))^2 + (-5-2)^2}$   
 $d = \sqrt{16 + 49}$   
 $d = \sqrt{65}$   
 $d \approx 8.1$

Dec 13-3:36 PM

December 19, 2018, Wednesday

Geometry  
 Semester Exam...  
 Good Luck!

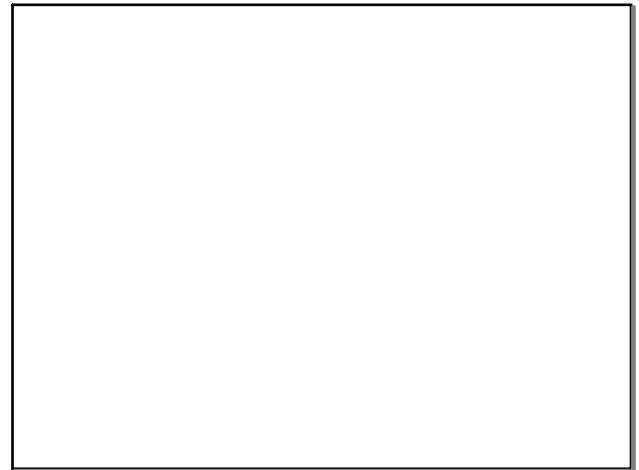
Dec 13-3:38 PM

Formula sheet:

$y = mx + b$   
 $a^2 + b^2 = c^2$   
 $m = \frac{y_2 - y_1}{x_2 - x_1}$   
 $(x-h)^2 + (y-k)^2 = r^2$  Center:  $(h, k)$  radius:  $r$   
 $Ax^2 + By^2 + Cx + Dy + E = 0$

$P = \frac{\text{favorable outcome}}{\text{total outcomes}}$   
 $m = \frac{\text{rise}}{\text{run}}$   
 $(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2})$   
 $d = \sqrt{(x_2-x_1)^2 + (y_2-y_1)^2}$

Dec 13-3:43 PM



Dec 18-12:13 PM