

## Part 1: Demographics

The following demographic questions will be used to determine whether the sample of students who take this assessment are a representative sample of the student body at large in order to check the reliability of the data obtained.

Please	fill in marks like this:	•	I	not like this:	0	8		
1.	Please indicate the total At HWC:	number of co O 0	llege level credit O 1-15	hours that you O 16-	have passed	l: O 31+		
2.	Please indicate the total At other colleg	number of col ges O 0	llege level credit O 1-15	hours that you O 16-	have passed	l: O 31+		
3.	Please indicate the matl	h class you are	currently enrolle	ed in or (if you'	re not taking	g a class)	eligible for.	
0	PC Math 3001-002, Math	n 98, 99 O	Math 118, 121, 1	22, 125, 140	O Math 1	41,144, 1	46, 204, 207, 208, 2	09, 210, 212
4.	Not including this seme At HWC:	ester, how man O 0	y Mathematics co O 1-2	ourses have you O 3+	ı successful	ly comple	eted:	
	At other colleg	ges O 0	O 1-2	O 3+				
5.	At any point in your car O Yes O N	reer at HWC, h o	nave you needed	to repeat a Mat	hematics co	ourse?		
6.	Please indicate your sea O Female	c: O Male						
7.	Please indicate your rac O Black/African Amer O American Indian/Ala	e and/or ethnio ican aska Native	city: O Native O Hispan	Hawaiian/Paci ic/Latino	fic Islander	()	O WhiteO Asian O Multi-racial/Multi	-Ethnic
8.	Please indicate your age O 25 or under	e: O 26-40	O 41-60	O 61+				
9.	Please indicate your cur	rrent academic	status:					
	O Full time	O Part tim	e					
10. <b>P</b> I	lease indicate your comf	ort level with:	:	Highly Comforta	Com ble	fortable	Uncomfortable	Highly Uncomfortable
a. scier	nce.			0		0	0	0
b. math	1.			0		0	0	0
c. writi	ng.			0		0	0	0
d. read	ing.			0		0	0	0
e. arts.				0		0	Ο	0

1

Please indicate your level of agreement or disagreement with each statement. Be as honest as possible. There are no correct answers.	Strongly Agree	Agree	Disagree	Strongly Disagree
11. Math helps me understand the world around me.	Ο	0	0	0
12. Many mathematics problems can be solved with little formal mathematical training.	0	0	0	0
13. There are often many ways to solve a mathematics problem.	0	0	0	0
14. When I get an answer to a math problem, I can sense if it is right or wrong before being given the solution.	0	0	0	0
15. If I work at it, I can do well in math.	0	0	0	0
16. For me, mathematics involves exploration, investigation, or experimentation.	0	0	0	0
17. Solving some mathematical problems involves knowing different strategies to try.	0	0	Ο	0
18. To do mathematics is more than just calculating answers to problems.	Ο	0	0	0
<ul><li>19. Mathematics is more than simply a set of rules for solving problems.</li><li>20. Mathematics is useful in more yours than simply.</li></ul>	Ο	0	0	0
preparing me for my next math class.	0	0	0	0
21. Being able to read and understand a word problem is critical to being able to solve it.	Ο	0	0	Ο
22. I need a good understanding of math to achieve my career goals.	Ο	Ο	0	0
23. After I've forgotten all the formulas, I'll still be able to use the ideas I've learned in math.	Ο	Ο	0	Ο
24. Mathematics has been an important tool to help me learn other subjects	Ο	0	0	0
25. In mathematics you can be creative and discover things for yourself.	Ο	0	0	0
26. Mathematical thinking helps me make intelligent decisions about my life.	Ο	0	Ο	0
27. Mathematics is useful not only to people who do specialized work but also to everyday life.	Ο	0	0	0
28. There may be more than one correct answer to a mathematics problem.	Ο	0	0	0
29. Learning mathematics involves more than simply memorizing.	Ο	0	0	0
30. Doing mathematics raises interesting new questions about the world.	Ο	0	0	0



## Part 2: Quantitative Reasoning

1. If 0.58% of all U.S. tax returns are audited, approximately how many returns are audited for each 1000 returns filed?

- 0 1
- O 60
- O 580
- O 6

- 2. The population of Springfield, IL is around 100,000 people. ComEd predicts that the population will increase 5% per year (i.e. each year the population will be 5% larger than it was the previous year). Peoples Energy predicts that the population will increase by 5,500 each year. Which group's prediction method predicts the larger population in 20 years?
  - O ComEd
  - O Peoples Energy
  - O both predictions are the same after 20 years
  - O There is not enough information provided to answer the question.

- 3. Sarah loves to bowl. Her game average is 124. She usually bowls five games on league night at the bowling alley. This week her scores for the first three games were 117, 130, and 113. What does she have to average in her last two games in order to have an overall average of 124 for this week?
  - O 124
  - O 130
  - O 120
  - O 129

- 4. You want to paint the walls of a rectangular room that is 24 ft. by 15 ft. The walls of the room are 8 ft high. The room has two doors, one that is 2 ft. wide and 7 ft. high and another that measures 6 ft by 7 ft. You find the paint you like. It is only available in quart cans. On the can it says that one quart covers 200 square feet. What is the least number of cans that you need to buy in order to paint the room (assume only one coat is used)?
  - 0 1
  - O 2
  - 0 3
  - O 4

5. According to several sources, the number of bankruptcies has increased by 180% from 2008 to 2009. This means that from 2008 to 2009 the number of bankruptcies has

- O stayed almost the same
- O almost doubled
- O almost tripled
- O more than tripled

## Use the following information to answer questions 6,7 and 8.

The graphs below describe the growth of four different populations (labeled *A*, *B*, *C*, and *D*) over some period of time.



- 6. Which two populations begin with the same number of members?
  - O A and B
  - $O \quad B \ and \ C$
  - $\boldsymbol{O} \quad C \text{ and } \boldsymbol{D}$
  - O There is not enough information provided to answer the question.

## 7. After how much time do populations A and B have the same population?

- O 5 years
- O 10 years
- O 20 years
- O There is not enough information provided to answer the question.
- 8. Which two populations grow at the same rate?
  - O A and B
  - O B and C
  - O C and D
  - O There is not enough information provided to answer the question.

Short Answers: For 9, 10 and 11, please show all of your work. Read carefully.

9. A graphic designer needs to rent some high quality photographic equipment to create her designs. She considers two different types of equipment. The cost of renting and using the first type is \$450 plus \$2.00 per copy. The cost of renting and using the second type is \$150 plus \$5.00 per copy.

i) Which type of equipment is less expensive if the artist only needs to make a small number of copies, the first or the second? Explain.

For office use only	
0	
0	
0	
0	
0	

ii) How many copies would the artist need to make before the other type of equipment becomes less expensive? Explain.

For office use only
0
0
0
0
0

10. Find the perimeter and area of the shape below. The measurements are in meters. Write your final answers in the spaces provided. Please include appropriate units.



Perimeter=\_\_\_\_\_

For office use only
0
0
0
0

Area=\_\_\_\_\_

For office use only
0
0
0
0
0

11. Which is the better deal: an 18-inch square pizza (that is, a square pizza in which the sides are each 18 in.) for \$20 or two 12-inch square pizzas (that is, two square pizzas in which the sides of each pizza are each 12 in.) for \$20? Explain.

For office use only	
0	
0	
0	
0	
0	