

WebAssign
Midterm Exam (Exam)Robert Mills
MAT104, section 050VA016, Summer 1 2014
Instructor: FRANOTIS STALLWORTH**Current Score :** - / 200**Due :** Monday, August 4 2014 09:00 AM EDT

0/1 submissions

1. -/10 pointsSmithNM12 1.2.025a.CMI.

What is the sum of the first 60 consecutive odd numbers?

2. -/10 pointsSmithNM12 6.2.008.CMI.

If possible, completely factor the expression. (If the expression is not factorable, enter NF.)

$$x^2 - 4x - 5$$

3. -/10 pointsSmithNM12 6.1.032.CMI.

Simplify the expression.

$$(2x - 1)(x^2 + 4x - 4)$$

4. -/10 pointsSmithNM12 6.7.044.

If a 165-mile trip took $7\frac{1}{2}$ gallons of gas, how many miles can be driven with a full tank of 15 gallons?

 mi

5. -/10 pointsSmithNM12 2.2.006.

Perform the given set operation. Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$. (Enter your answers as a comma-separated list. Enter EMPTY for the empty set.)

$$\{1, 2, 8\} \cap \{2, 8, 9\}$$

6. -/10 pointsSmithNM12 2.2.005.

Perform the given set operation. Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$. (Enter your answers as a comma-separated list. Enter EMPTY for the empty set.)

$$\{2, 3, 8\} \cup \{3, 8, 9\}$$

7. -/10 pointsSmithNM12 6.8.056.

A certain test is worth **115** points. How many points (rounded to the nearest point) are needed to obtain a score of **85%**?

 points

8. -/10 pointsSmithNM12 6.1.014.

Simplify the expression.

$$(x + 2y - 5z) - (x - 6y + 4z)$$

Classify the answer by number of terms and degree.

- 1st-degree monomial
- 1st-degree binomial
- 1st-degree trinomial
- 2nd-degree binomial
- 2nd-degree trinomial

9. -/10 pointsSmithNM12 2.2.054.CMI.

From a survey of 100 college students, a marketing research company found that **60** students owned iPods, **60** owned cars, and **40** owned both cars and iPods.

(a) How many students owned either a car or an iPod (but not both)?

 students

(b) How many students do not own either a car or an iPod?

 students

10. -/10 pointsSmithNM12 2.3.003.CMI.

Let $U = \{8, 9, 10, 11, 12, 13, 14\}$, $A = \{8, 9, 10, 11\}$, $B = \{8, 9, 12, 13\}$, and $C = \{10, 12, 14\}$. List all the members of the given set. (Enter your answers as a comma-separated list.)

$(A \cup B) \cap C$

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11. -/10 pointsSmithNM12 1.2.040.

Use Euler circles to check the validity of the argument.

All **brown** hair is **pretty**.

No **pretty** things are **rare**.

Therefore, no **brown** hair is **rare**.

- valid
- not valid

12. -/10 pointsSmithNM12 2.1.032c.CMI.

List all possible subsets of the given set.

$I = \{5, 6\}$

- $\{5\}, \{6\}, \{5, 6\}$
- $\emptyset, \{5, 6\}$
- $\{5\}, \{6\}$
- $\emptyset, \{5\}, \{6\}, \{5, 6\}$
- $\emptyset, \{5\}, \{6\}$

13. -/10 pointsSmithNM12 2.1.024.

Specify the set by description.

$$\{m, i, s, p\}$$

- distinct letters in the word misspell
- distinct consonants in the word Mississippi
- distinct consonants in the word misspell
- distinct letters in the word prism
- distinct letters in the word Mississippi

14. -/10 pointsSmithNM12 6.5.046.

Solve the inequality.

$$3(3F - 2) > 4F - 3$$

15. -/10 pointsSmithNM12 6.6.043.

Two persons are to run a race, but one can run 11 meters per second, whereas the other can run 7 meters per second. If the slower runner has a 66-meter head start, how long will it be before the faster runner catches the slower runner, if they begin at the same time?

sec

16. -/10 pointsSmithNM12 6.7.005.

Write the ratio given as a simplified ratio.

A cement mixture calls for 120 pounds of cement for 3 gallons of water. What is the ratio of cement to water?

to 1

17. -/10 pointsSmithNM12 2.3.018.

Consider the sets X and Y . Write the statement in symbols.

The complement of the intersection of X and Y

$X \cap Y$

$X \cap \bar{Y}$

$\bar{X} \cup \bar{Y}$

$\bar{X} \cap \bar{Y}$

$\bar{X} \cup Y$

18. -/10 pointsSmithNM12 6.4.023.CMI.

Solve the equation.

$$5(W + 2) - 6(W + 5) = 0$$

$W =$

19. -/10 pointsSmithNM12 2.2.011.

Perform the given set operation. Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$. (Enter your answers as a comma-separated list. Enter EMPTY for the empty set.)

$$\overline{\{3, 7, 9\}}$$

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20. -/10 pointsSmithNM12 2.2.015.

Perform the given set operation. Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$. (Enter your answers as a comma-separated list. Enter EMPTY for the empty set.)

$$\{x \mid x \text{ is a multiple of } 2\} \cup \{x \text{ is a multiple of } 5\}$$

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