

# Sample Documents

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## Algebra II/Trig (TRI)

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## Algebra 2A

Name \_\_\_\_\_

Per/Sec. \_\_\_\_\_

Part 1. Simplify.

1.  $-\left(\frac{-5d^2ef}{2}\right)^4$

1. \_\_\_\_\_

2.  $\frac{8x^2y^3}{10xy^2} \cdot \frac{-3x}{2w} \cdot \frac{-6w^2}{3wx^3y}$

2. \_\_\_\_\_

Part 2. Solve.

3.  $|n| \geq 6$

3. \_\_\_\_\_

Part 3. Simplify.

4.  $\pm\sqrt{\frac{1}{169m^{6k}}}$

4. \_\_\_\_\_

Part 4. Rewrite without any exponents.

5.  $y^{\frac{3}{4}}$

5. \_\_\_\_\_

Part 5.

6. In the equation  $h^2w + 6 = w(2w + 3h)$ , the sum of the roots exceeds the product of the roots by 5. Find the value(s) of  $h$ .

6. \_\_\_\_\_

7. A line contains the points  $C(4\frac{1}{2}, -3)$  and  $D(6\frac{1}{2}, 6)$ . What is the slope of all lines perpendicular to  $\overline{CD}$ ?

7. \_\_\_\_\_

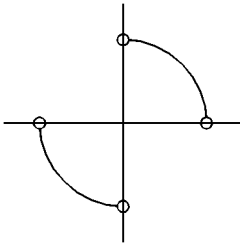
Part 6. Evaluate.

8.  $\begin{vmatrix} n-2 & -n \\ 5 & n-3 \end{vmatrix}$

8. \_\_\_\_\_

Part 7. Which of the following represent a function?

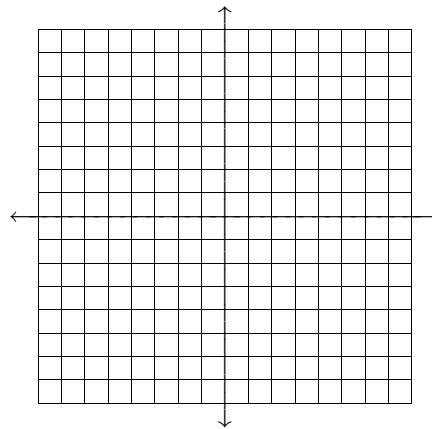
9.



9. \_\_\_\_\_

Part 8. Graph.

10.  $f(x) = \begin{cases} x^2 + 3, & \text{if } x \geq -1 \\ |4x|, & \text{if } x < -1 \end{cases}$



Part 9.

11. The Statuary Hall in the United States Capitol is elliptical. It measures 46 feet wide and 96 feet long. If a person is standing at one focus, her whispers can be heard at the other focus. Find the equation of the ellipse which describes the room.

11. \_\_\_\_\_

12. The approximate age  $t$ , in years, of a fossil may be found by determining the percent  $P$  of carbon-14 contained in the fossil using the relationship  $P = 100(10^{-0.0000523t})$ . Given that a certain fossil is 4200 years old, what percent of carbon-14 should the fossil contain?

12. \_\_\_\_\_

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**Answer List**

- |     |     |     |
|-----|-----|-----|
| 1.  | 2.  | 3.  |
| 4.  | 5.  | 6.  |
| 7.  | 8.  | 9.  |
| 10. | 11. | 12. |
- 

**Catalog List**

- |               |               |               |
|---------------|---------------|---------------|
| 1. TRI AA 36  | 2. TRI AE 76  | 3. TRI AH 193 |
| 4. TRI BA 228 | 5. TRI BH 52  | 6. TRI DJ 77  |
| 7. TRI EB 143 | 8. TRI FA 36  | 9. TRI HA 12  |
| 10. TRI HF 20 | 11. TRI JL 25 | 12. TRI KI 14 |

Algebra 2A

Name \_\_\_\_\_

Date \_\_\_\_\_

ID # \_\_\_\_\_

Score \_\_\_\_/\_\_\_\_

Simplify.

1.  $\sum_{k=1}^6 3^{k-3}$

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Express using sigma notation.

2.  $\frac{1}{3} + \frac{1}{9} + \frac{1}{27} + \dots + \frac{1}{729}$

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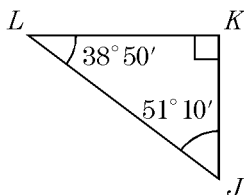
3. Find the number of terms in the arithmetic sequence 63, 59.5, 56, ..., -147.

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4. Write the first two terms in the expansion of  $(m^{\frac{3}{2}} - 2n^{\frac{1}{2}})^8$ .

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5. Find  $\sin \angle L$ .



6. If  $\sin \angle A = \frac{3}{5}$ , find  $\cos \angle A$ .

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7.  $r = 1.5, \theta = \underline{\hspace{2cm}}, s = \frac{3\pi}{2}$

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Graph each function.

8.  $\sin \theta = -\frac{5}{7}$ . Find  $\sin(\theta + 2\pi)$ .

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Find the phase shift and vertical shift of the function.

9.  $JK = \frac{24}{25}$

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Verify each identity.

10.  $1 - \cos \theta \sin \theta \cot \theta = \sin^2 \theta$

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11.  $C = 68.5^\circ, c = 258 \text{ cm}, b = 386 \text{ cm}$

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Algebra 2A Ms. Blake 3/17/99

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**Answer List**

- |     |     |    |
|-----|-----|----|
| 1.  | 2.  | 3. |
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| 10. | 11. |    |
- 

**Catalog List**

- |               |               |              |
|---------------|---------------|--------------|
| 1. TRI LC 108 | 2. TRI LD 66  | 3. TRI LM 36 |
| 4. TRI LM 125 | 5. TRI MC 97  | 6. TRI MK 1  |
| 7. TRI NA 32  | 8. TRI OA 1   | 9. TRI OE 8  |
| 10. TRI QC 12 | 11. TRI QH 10 |              |