

TEKS/TAKS
Benchmark 1
Benchmark 2
CORRELATED TO TEKS

MATHEMATICS
Grade 11

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TEKSING TOWARD TAKS
Mathematics Benchmark 1
Grade 11
TEACHER NOTES

Teacher Notes:

- The actual Grade 11 TAKS Mathematics test will have a total of 60 items, plus field test items.
- The actual Grade 11 TAKS Mathematics test will have the following number of items per Objective (Information from TEA TAKS Information Booklet XL Mathematics – March 2007):

| | |
|----------------|---------|
| ○ Objective 1 | 5 items |
| ○ Objective 2 | 5 items |
| ○ Objective 3 | 5 items |
| ○ Objective 4 | 5 items |
| ○ Objective 5 | 5 items |
| ○ Objective 6 | 7 items |
| ○ Objective 7 | 7 items |
| ○ Objective 8 | 7 items |
| ○ Objective 9 | 5 items |
| ○ Objective 10 | 9 items |

TOTAL **60 items**

- This Benchmark has been designed with the above information in mind and includes 66 questions so that teachers and students will be able to have a feel for the time it will actually take students to complete the actual TAKS test.
- Keep in mind that the TEA has stated in the TAKS Information Booklet that “TAKS has been developed to better reflect good instructional practice and more accurately measure student learning. We hope that every teacher will see the connection between what we test on this state assessment and what our students should know and be able to do to be academically successful”.
- Remember to encourage your students to utilize the Grade 9-11 Mathematics Chart. You might consider copying the chart on cardstock for stability when students are using the rulers on the sides of the charts to answer test item.
- This test contains at least one question from every TEKS tested on TAKS except A.6F, A.7C, G.5D, and 8.13B. The length of the test and the number of questions per objective as designated by the blueprint would not allow every TEKS to be tested on this benchmark.

TEKSING TOWARD TAKS
Mathematics Benchmark 1
Grade 11
Answer Key and TEKS/TAKS Correlation

| Question # | Answer | TAKS Objective | TEKS | | Question # | Answer | TAKS Objective | TEKS |
|------------|--------|----------------|-------|--|------------|--------|----------------|-------|
| 1 | D | 1 | A.1A | | 34 | H | 10 | G.5C |
| 2 | J | 2 | A.4B | | 35 | B | 5 | A.10B |
| 3 | C | 4 | A.8C | | 36 | J | 6 | G.10A |
| 4 | J | 3 | A.6A | | 37 | B | 8 | G.8D |
| 5 | B | 5 | A.9C | | 38 | F | 9 | 8.12A |
| 6 | H | 7 | G.6B | | 39 | C | 10 | 8.16B |
| 7 | B | 6 | G.4A | | 40 | H | 7 | G.7B |
| 8 | F | 8 | G.8A | | 41 | D | 1 | A.1C |
| 9 | D | 9 | 8.3B | | 42 | H | 3 | A.6B |
| 10 | F | 10 | 8.16B | | 43 | A | 4 | A.7A |
| 11 | C | 1 | A.1B | | 44 | 10 | 8 | G.11C |
| 12 | H | 3 | A.5A | | 45 | D | 2 | A.2C |
| 13 | B | 2 | A.4B | | 46 | J | 9 | 8.11B |
| 14 | 10 | 4 | A.8B | | 47 | B | 10 | 8.15A |
| 15 | D | 10 | 8.16A | | 48 | H | 8 | G.11A |
| 16 | H | 6 | G.5B | | 49 | C | 5 | A.10A |
| 17 | A | 7 | G.7B | | 50 | G | 2 | A.2D |
| 18 | G | 8 | G.8B | | 51 | D | 2 | A.2A |
| 19 | A | 9 | 8.11A | | 52 | H | 10 | 8.14C |
| 20 | H | 6 | G.5B | | 53 | B | 3 | A.6E |
| 21 | D | 10 | 8.14A | | 54 | F | 3 | A.6C |
| 22 | J | 2 | A.2B | | 55 | A | 10 | 8.16A |
| 23 | C | 3 | A.6G | | 56 | J | 2 | A.3B |
| 24 | J | 10 | 8.15A | | 57 | B | 7 | G.7C |
| 25 | C | 7 | G.6C | | 58 | H | 8 | G.11B |
| 26 | G | 4 | A.8A | | 59 | B | 6 | G.8C |
| 27 | D | 6 | G.8C | | 60 | F | 9 | 8.12C |
| 28 | H | 3 | A.5C | | 61 | D | 1 | A.1D |
| 29 | D | 8 | G.11D | | 62 | G | 10 | 8.14B |
| 30 | G | 5 | A.9B | | 63 | D | 2 | A.3A |
| 31 | C | 3 | A.6D | | 64 | G | 1 | A.1E |
| 32 | F | 7 | G.7A | | 65 | C | 7 | G.9D |
| 33 | A | 4 | A.7B | | 66 | G | 5 | A.9D |

TEKSING TOWARD TAKS
Mathematics Benchmark 1
Grade 11

1. When a person purchases a taxable item in our city, the person must pay a sales tax of 8.25%. If Jimmy buys an item that costs x dollars, the total purchase price can be described by the function $f(x) = x + 0.0825x$. Which quantity is the independent quantity in this relationship?

- A The number of items Jimmy buys
- B The amount of money Jimmy spends on this shopping trip
- C The total purchase price of an item
- D The cost of the item not including tax

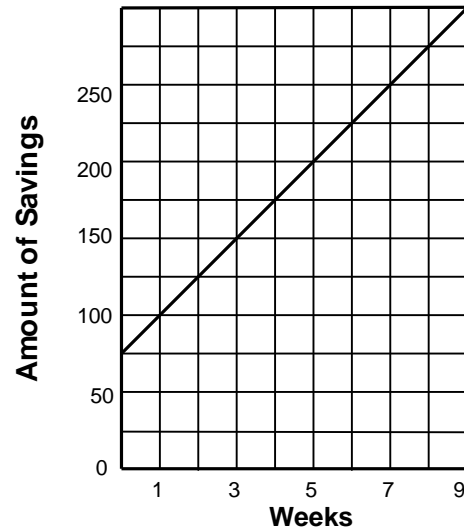
2. Which expression is equal to $(2x - 10)(x - 3) - (x - 3)(x + 1)$?

- F $x^2 - 16x + 27$
- G $x^2 - 16x + 33$
- H $x^2 - 14x + 27$
- J $x^2 - 14x + 33$

3. Tickets to a circus cost \$8.00 for general admission and \$5.00 with a student ID. On opening night, 650 tickets were sold for a total of \$4000. How many general admission tickets were sold?

- A 500
- B 400
- C 250
- D 175

4. Jimmy opened a savings account and added money to it weekly as shown below.

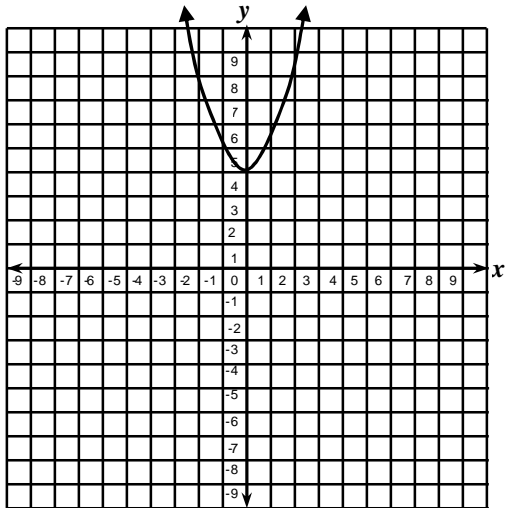


What is the slope of the graph and what does it represent?

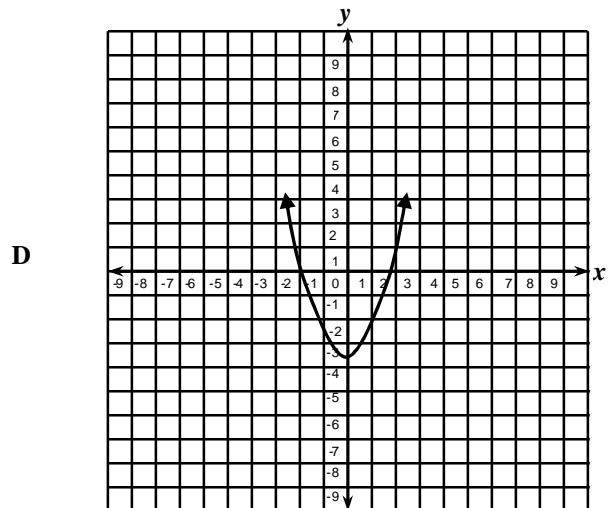
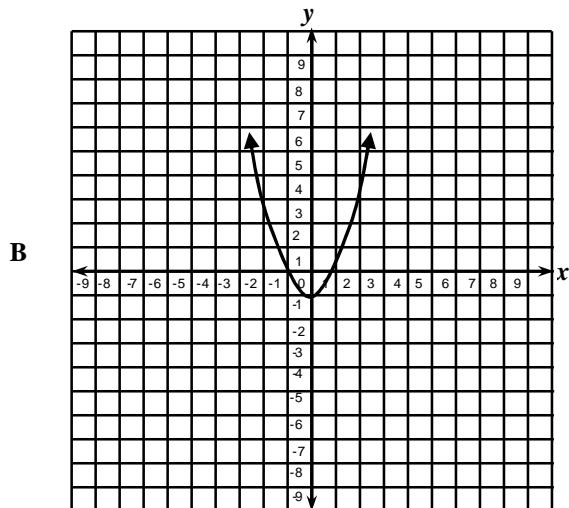
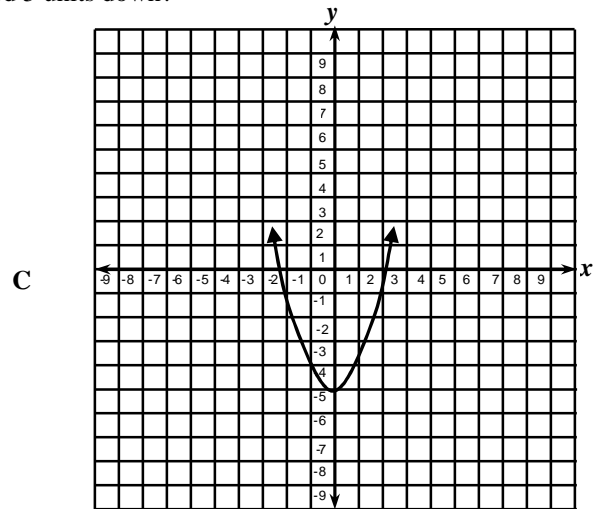
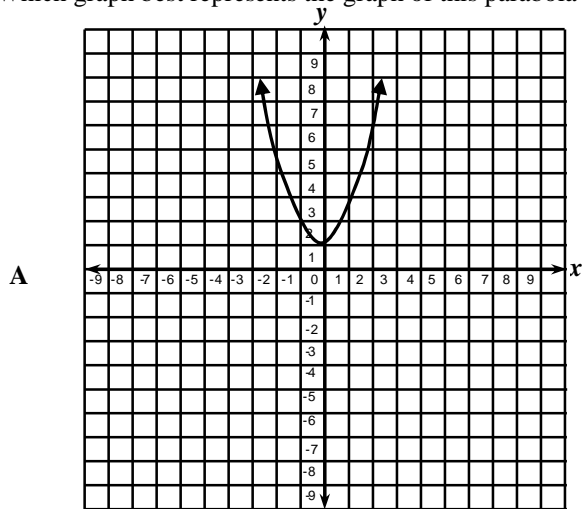
- F The slope is 75 and it represents the initial amount of money in his savings.
- G The slope is 75 and it represents the amount of money he added to the savings each week.
- H The slope is 50 and it represents the amount of money he added to the savings each week.
- J The slope is 25 and it represents the amount of money he added to the savings each week.

TEKSING TOWARD TAKS
Mathematics Benchmark 1
Grade 11

5. The graph of $y = x^2 + 4$ is shown below.



Which graph best represents the graph of this parabola that has been translated 5 units down?



TEKSING TOWARD TAKS
Mathematics Benchmark 2
Grade 11
Answer Key and TEKS/TAKS Correlation

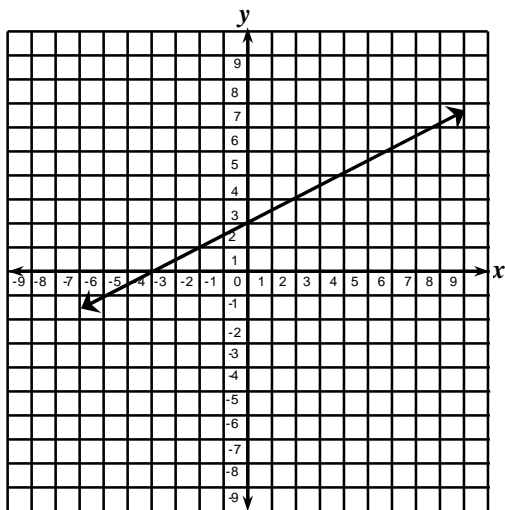
| Question # | Answer | TAKS Objective | TEKS | Question # | Answer | TAKS Objective | TEKS |
|------------|--------|----------------|-------|------------|--------|----------------|-------|
| 1 | D | 4 | A.7A | 34 | F | 5 | A.9B |
| 2 | H | 7 | G.7B | 35 | B | 2 | A.3A |
| 3 | C | 5 | A.10B | 36 | H | 4 | A.7A |
| 4 | G | 6 | G.5C | 37 | A | 5 | A.10A |
| 5 | B | 10 | 8.15A | 38 | J | 6 | 8.16A |
| 6 | G | 1 | A.1A | 39 | D | 10 | 8.16B |
| 7 | C | 3 | A.6B | 40 | J | 8 | G.8C |
| 8 | H | 2 | A.4B | 41 | A | 7 | G.7A |
| 9 | D | 6 | G.10A | 42 | G | 3 | A.6F |
| 10 | H | 8 | G.8A | 43 | C | 1 | A.1E |
| 11 | A | 1 | A.1B | 44 | H | 2 | A.3B |
| 12 | J | 5 | A.11A | 45 | D | 10 | 8.14B |
| 13 | A | 8 | G.11B | 46 | F | 10 | 8.16A |
| 14 | G | 9 | 8.11A | 47 | B | 2 | A.2D |
| 15 | B | 9 | 8.12C | 48 | G | 9 | 8.13B |
| 16 | F | 3 | A.6D | 49 | C | 9 | 8.11B |
| 17 | B | 1 | A.1D | 50 | J | 3 | A.5A |
| 18 | G | 7 | G.9D | 51 | A | 1 | A.1C |
| 19 | B | 3 | A.6E | 52 | H | 10 | 8.15A |
| 20 | J | 4 | A.7C | 53 | B | 3 | A.6A |
| 21 | A | 5 | A.1D | 54 | F | 2 | A.2A |
| 22 | H | 10 | 8.14C | 55 | B | 8 | G.8B |
| 23 | C | 6 | G.5B | 56 | J | 7 | G.6B |
| 24 | 1875 | 8 | G.11D | 57 | C | 4 | A.8B |
| 25 | D | 10 | 8.14C | 58 | F | 6 | G.4 |
| 26 | H | 8 | G.8D | 59 | D | 10 | 8.14A |
| 27 | C | 9 | 8.3B | 60 | J | 7 | G.7A |
| 28 | G | 8 | G.11A | 61 | A | 8 | G.11D |
| 29 | B | 7 | G.7C | 62 | H | 10 | 8.16A |
| 30 | J | 3 | A.6G | 63 | B | 1 | A.1D |
| 31 | C | 6 | G.4 | 64 | G | 7 | G.7B |
| 32 | F | 2 | A.2D | 65 | D | 5 | A.9C |
| 33 | D | 4 | A.7A | 66 | J | 8 | G.8C |

TEKSING TOWARD TAKS
Mathematics Benchmark 2
Grade 11

1. One adult and one child ticket to the afternoon movie cost \$13. Three adult and two child's tickets cost \$34. Which system of equations can be used to determine, c , the cost of a child's ticket and, a , the cost of an adult ticket?

- A** $a + c = 13$
 $3a + c = 34$
- B** $a + c = 13$
 $2a + 3c = 34$
- C** $a = 13 + c$
 $3a + 2c = 34$
- D** $a + c = 13$
 $3a + 2c = 34$

2. Which equation describes a line that would be parallel to the line graphed below?

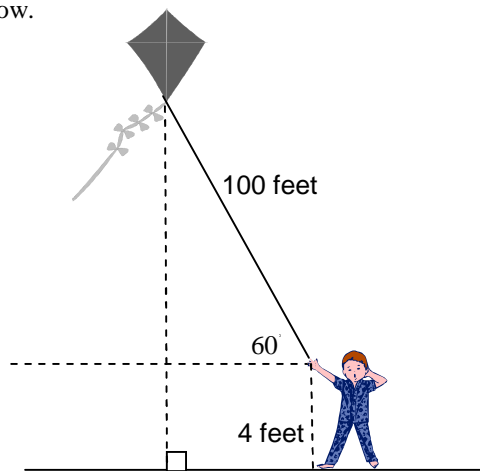


- F** $2x + y = 8$
- G** $2x - y = 4$
- H** $x - 2y = 8$
- J** $x + 2y = 5$

3. What are the x -intercepts of the graph of the parabola whose equation is $y = x^2 - 2x - 15$?

- A** 3 and 5
- B** 15 and 1
- C** -3 and 5
- D** 3 and -5

4. Billy is flying his kite. He estimates the string creates a 60° angle with a line parallel to the ground as shown below.



If Billy is about 4 feet tall and the amount of string he has used to fly the kite is 100 feet, about how high is the kite from the ground?

- F** 100 feet
- G** 90 feet
- H** 80 feet
- J** 70 feet

TEKSING TOWARD TAKS
Mathematics Benchmark 2
Grade 11

5. Mrs. Larson bought an air conditioning system on sale for \$3100. The original price for the system was \$4800. Which expression can be used to determine the percent of the original price Mrs. Larson saved on the system?

- A** $\frac{3100}{4800} \times 100$
- B** $\frac{(4800 - 3100)}{4800} \times 100$
- C** $\frac{(3100 - 4800)}{3100} \times 100$
- D** $\frac{4800}{3100} \times 100$

6. Mrs. Matthews wants to write a function for the volume of any cylinder whose radius length is 3 units. She used the function $V = 9\pi h$, where V is the volume and h is the height of the cylinder. Which of the following statements is a true statement about her function?

- F** The volume of the cylinder depends upon the radius of the cylinder.
- G** The volume of the cylinder depends upon the height of the cylinder.
- H** The height of the cylinder depends upon the volume of the cylinder.
- J** The radius of the cylinder depends upon the volume of the cylinder.

7. What are the slope and x -intercept of a line that contains the point $(-2, 5)$ and has the same y -intercept as the line whose equation is $x = y - 11$?

