Name: _____   Date: _____

Objective: In order to prep for STAAR, I will review how to..._____

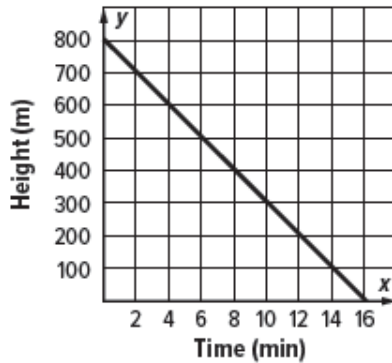For STAAR: You will need to be able to find the slope from: Graphs, Tables, Points, Equations, and verbal descriptions

1.	2.	3. Find the slope of the line that contains the points (4, 1) and (7, 3).	4. Find the slope of the line: $2x - 3y = 12$

1.

2.

X	Y
-3	5
-1	1
0	-1
2	-5

Rapid Fire: Identifying Slope and Y-intercept in Real Life Situations

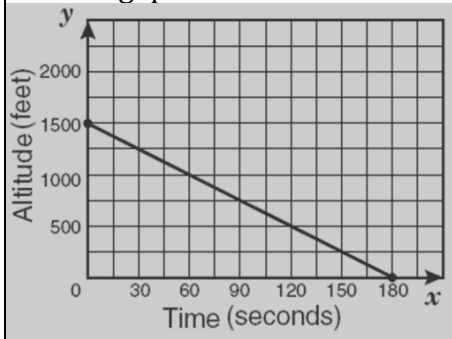|	Slope	Y-Intercept
5. FedEx charges a flat fee per package of $4 as well as 35 cents per pound.		
6. Jimmy, a roofer, charges $200 for all jobs, then $25 per square foot of roofing.		
7. A baby is born with a weight of 8 pounds. It will add about 11 pounds per year.		

STAAR level slope questions:

8. The graph shows a gondola as it goes down a hill. If the slope were changed to -40, how would it affect the situation?	9. The slope of a line passes through the point (-6, 5) and (4, r) and has a slope of $m = \frac{3}{5}$. What is the value of r?

8.

10. The table shows Rita's distance from her grandparents' house, after how many hours will she arrive assuming she travels at a constant rate?	11. Given the points on a line (5k, 6k) and (7k, 10k), what is the slope?

10.

Time, t (hours)	Distance, d (miles)
0	400
0.75	362.5
1.5	325

1. A plane is landing at an airport. Use the graph below to answer the following questions.

What is the slope and its meaning?

2. The table below shows the amount a football player squats, y, based on the number of plates, x, on the bar.

What is the meaning of the slope?

Number of plates	Weight in Kilos
2	30
4	40
6	50

3. David decides to get a job on the weekend as a valet attendant at Galleria Mall. David gets paid a per shift fix fee of $25 as well as $2 for every car he parks.
What is the slope?

What is the y-intercept?

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4. The table below shows the height above sea level of a hiker going up a hill.

Time	Height (ft above sea level)
1:13 P.M.	5211
1:33 P.M.	5651
1:48 P.M.	5981

At what rate is the hiker ascending?

5.

A music service charges a monthly fee plus a fixed amount for each download. One month, Rhonda downloads 12 songs and pays $15.67. The next month, she downloads 15 songs and pays $18.34. At what rate does her bill change with respect to the number of downloads?

A 0.89

B 1.22

C 1.31

D 4.99

6. What is the slope of the line which contains the points (0,-3), (-2,-7), and (3,3).

7. The function y= 1000 + 50x can be used to determine the price of fixing a roof considering x, the number of square feet of roof needing repair.

What is the slope and what is its meaning?

What is the y-intercept and its meaning?

8. Find the slope of the equation:
$$y - 3 = -4(x - 1)$$

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9. Mr. Dearing bought a 4-foot baby red fern tree. He noticed that it grows 2 feet every year.
What is the slope?

What is the y-intercept?

10. What is the slope of the line which contains the points (3, 4k) and (5, 10k)?

11. The ounces of sunscreen left in Emily's bottle is given by the equation $y = 30 - 4x$, where x is the number of uses.

How much did Emily start with**?**
_____

How many ounces does she use each time? _____

![TEKS] **Practice** A.3(B)

Calculate the rate of change of a linear function represented tabularly, graphically, or algebraically in context of mathematical and real-world problems.

Multi-Step Example

The table below represents the distance Reggie and Rita are from their grandparents' house at various times after the start of their car trip to visit them. What value is the best representation of the rate at which the distance between Reggie and Rita and their grandparents is changing assuming they drive at a constant speed?

Time, t (hours)	Distance, d (miles)
0	400
0.75	362.5
1.5	325

The values can be thought of as three points on a line, namely (0, 400), (0.75, 362.5), and (1.5, 325). Any two points can be used, so we will use the first and third since their y-coordinates are whole numbers. The slope of the line containing these two points is $m = \dfrac{325 - 400}{1.5 - 0} = -\dfrac{75}{1.5}$ or -50. The rate at which their distance is changing is -50 miles per hour.
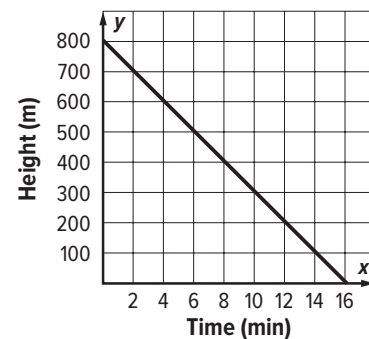
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1 The Galveston Island Trolley weighs 63,000 pounds. It travels 25 miles per hour on 6.7 miles of track and costs $0.60 for adults and $0.30 for children. What is the slope of the equation that describes the distance travelled by the trolley over a period of time?

A 0.3

B 0.6

C 6.7

D 25

2 Samuel runs around a 100-meter track. He uses the linear equation $y = 200 + 5x$ to describe how far he runs after he has already jogged two laps. Which of the following best describes the slope of the linear equation?

F Samuel runs 5 meters in 2 seconds.

G Samuel runs 5 meters in 1 second.

H Samuel runs 7.5 meters in 1 second.

J Samuel runs 10 meters in 1 second.

3 The graph below illustrates the movement of a gondola down from a mountain.

What would happen if the slope was changed to -40?

A The gondola would increase in speed.

B The gondola would decrease in speed.

C The gondola would stop.
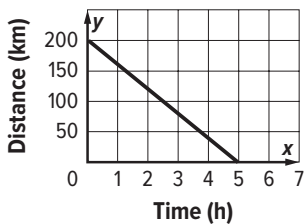
D The gondola would reverse direction.

![TEKS] **Practice** A.3(B)   *(continued)*

4 Anita does the same number of jumping jacks each day over a period of several days. On the fifth day, she has completed a total of 325 jumping jacks. By the eighth day, she has completed a total of 520. What value equals the slope of the line of the total number of jumping jacks when graphed against the day?

Record your answer and fill in the bubbles on your answer document.

5 The graph shows the distance to the destination to be travelled by a car from the time the driver leaves home to the time he reaches his destination. Which of the following best describes the slope of the line segment?

F The car is travelling at 60 km/hr.

G The car is travelling at 40 km/hr.

H The car is travelling at 30 km/hr.

J The car is travelling at 20 km/hr.

6 Audra is climbing a mountain at a constant rate. Her heights at various times are given.

Time	Height (ft above sea level)
1:13 P.M.	5211
1:33 P.M.	5651
1:48 P.M.	5981

Which of the following represents the rate at which she is climbing?

A 40 feet per minute

B 30 feet per minute

C 25 feet per minute

D 22 feet per minute

7 In 2010, Little Elm had 3646 residents. Five years later, they had 17,150 residents. If the population grows at this rate, about how many residents will the town have in 2020?

F 20,800

G 27,000

H 30,700

J 35,400

8 José buys 20 cases of soda. Cases of grape soda cost $4.50, and cases of orange soda cost $3.95. The total cost, c, in terms of the number of cases of grape soda, g, is given by $c = 4.50g + 3.95(20 - g)$. Determine the rate at which his cost is changing with respect to g.

Record your answer and fill in the bubbles on your answer document.

9 A music service charges a monthly fee plus a fixed amount for each download. One month, Rhonda downloads 12 songs and pays $15.67. The next month, she downloads 15 songs and pays $18.34. At what rate does her bill change with respect to the number of downloads?

A 0.89

B 1.22

C 1.31

D 4.99

10 An elephant's weight starts at 25 kilograms and increases 5 kilograms per month. This situation can be represented by $y = 25 + 5x$. What happens if the slope is decreased to 3?

F The rate of weight gain has increased.

G The rate of weight gain has decreased.

H The initial weight has increased.

J The initial weight has decreased.

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