

Lesson Plan

Topic: Graphic linear equations

Level: Form 3

Subject: Mathematics

Time of lesson: 80 minutes (a double lesson)

Learning Objectives:

Cognitive:

- Memorize the geometrical meaning of the x & y axes and slope

Skill:

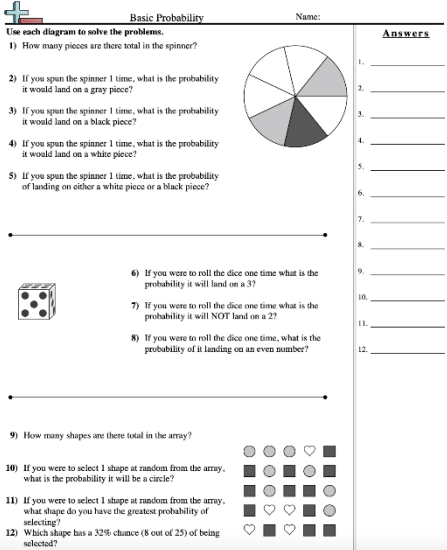
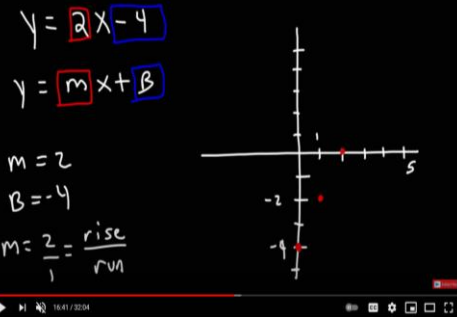
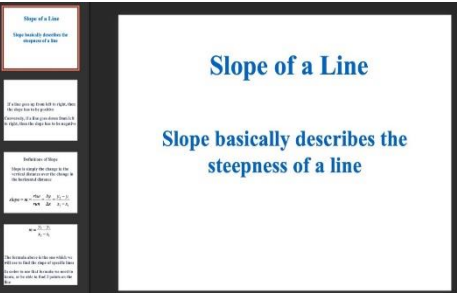
- Know how to calculate the slope of straight line

Affective:

- Enjoy the lesson.

Teaching Resources (see appendix)

- YouTube Video
- PPT
- Quiz

Purpose of Teaching / Stage	Teaching sequences and activities	Resources
<p><u>Checking Homework</u> (10 mins)</p> <p>➤ To check the answer of the assigned homework</p>	<ol style="list-style-type: none"> 1. Teacher shows the answer of the homework (refer to Appendix I) about Basic Probability on the visualizer. 2. Students check the answer for their neighbor. 	<p>Homework (Refer to Appendix I)</p> 
<p><u>Watching YouTube Video</u> (30 mins)</p> <p>➤ To teach linear equations by playing the YouTube video</p>	<ol style="list-style-type: none"> 1. Teacher plays a 30 mins YouTube video about linear equations. (https://www.youtube.com/watch?v=Ft2_QtXAnh8) 2. While playing the video, teacher stops the video and ask students some questions to check their understanding. (E.g. What is standard form of linear equations?) 	<p>YouTube video</p> 
<p><u>Teaching with PowerPoint</u> (20 mins)</p> <p>➤ To consolidate the students' knowledge in this topic.</p>	<ol style="list-style-type: none"> 1. Teacher teaches the concepts of linear equation with the PowerPoint (refer to Appendix II) <ul style="list-style-type: none"> • Concepts of linear equation <ol style="list-style-type: none"> a. Definition of slope b. Point-slope Form c. Two-points Form 	<p>PowerPoint (Refer to Appendix II)</p> 

Mark-bearing Quiz

(20mins)

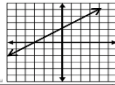
➤ To check students' understanding

1. Students have to complete a quiz (refer to Appendix III) about linear equation in 20 minutes.

Quiz (Refer to Appendix III)

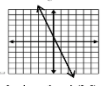
Linear Equations Quiz Name: _____ Class No: _____

1. What are the x- and y-intercepts?
A) x-int (3, 0) y-int (0, 2)
B) x-int (-3, 0) y-int (0, 2)
C) x-int (2, 0) y-int (0, 3)
D) x-int (2, 0) y-int (0, -3)

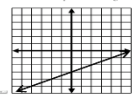


2. What is the following equation rewritten in slope-intercept form: $-8x = 2 - 2y$?
A) $y = \frac{4}{3}x + 1$
B) $y = 4x + 1$
C) $y = -4x + 1$
D) $y = -4x - 1$

3. Which is true about the given line?
A) Its slope is -3 and goes through (2, 5).
B) Its slope is -1/3 and goes through (2, -5).
C) Its slope is -1 and goes through (2, -3).
D) Its slope is -1/3 and goes through (-5, 2).



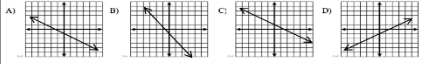
4. What is the equation of the given graph?
A) $y = -2x - 3$
B) $y = -\frac{1}{2}x + 3$
C) $y = 2x - 3$
D) $y = \frac{1}{2}x - 3$



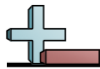
5. Which equation has a slope of $\frac{1}{4}$ and a y-intercept of 3?
A) $\frac{1}{4}x + 3y = 1$ B) $y = \frac{1}{4}x + 3$
C) $\frac{1}{4}x = y + 3$ D) $y = 3x + \frac{1}{4}$

6. Find the slope of the given points (3, 4) and (7, -6).
A) $-\frac{1}{2}$
B) 2
C) -2
D) 0

7. Which of the following best presents the graph of a line with a slope of $-\frac{2}{3}$ and a y-intercept of -1?



Teaching resources
 Appendix I

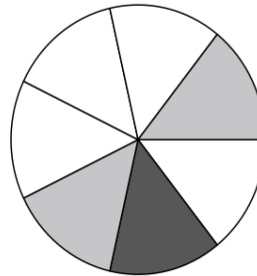


Basic Probability

Name: _____

Use each diagram to solve the problems.

- 1) How many pieces are there total in the spinner?
- 2) If you spun the spinner 1 time, what is the probability it would land on a gray piece?
- 3) If you spun the spinner 1 time, what is the probability it would land on a black piece?
- 4) If you spun the spinner 1 time, what is the probability it would land on a white piece?
- 5) If you spun the spinner 1 time, what is the probability of landing on either a white piece or a black piece?

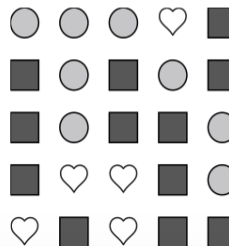


- Answers**
1. _____
 2. _____
 3. _____
 4. _____
 5. _____
 6. _____
 7. _____
 8. _____
 9. _____
 10. _____
 11. _____
 12. _____



- 6) If you were to roll the dice one time what is the probability it will land on a 3?
- 7) If you were to roll the dice one time what is the probability it will NOT land on a 2?
- 8) If you were to roll the dice one time, what is the probability of it landing on an even number?

- 9) How many shapes are there total in the array?
- 10) If you were to select 1 shape at random from the array, what is the probability it will be a circle?
- 11) If you were to select 1 shape at random from the array, what shape do you have the greatest probability of selecting?
- 12) Which shape has a 32% chance (8 out of 25) of being selected?



Appendix III (Quiz)

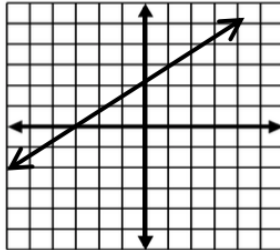
Linear Equations Quiz

Name: _____

Class no: _____

1. What are the x and y-intercepts?

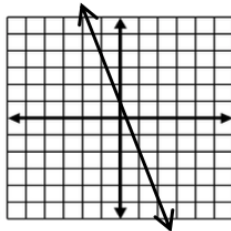
- A) x-int (3, 0)
y-int (0, 2)
B) x-int (-3, 0)
y-int (0, 2)
C) x-int (2, 0)
y-int (0, 3)
D) x-int (2, 0)
y-int (0, -3)



2. Which is the following equation rewritten in slope-intercept form: $-8x = 2 - 2y$

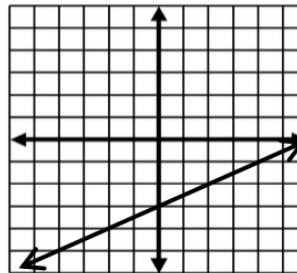
- A) $y = \frac{1}{4}x + 1$
B) $y = 4x + 1$
C) $y = -4x + 1$
D) $y = -4x - 1$

3. Which is **true** about the given line?



- A) Its slope is -3 and goes through (2, 5).
B) Its slope is $-\frac{1}{3}$ and goes through (2, -5).
C) Its slope is -3 and goes through (2, -5).
D) Its slope is $-\frac{1}{3}$ and goes through (-5, 2).

4. What is the equation of the given graph?



- A) $y = -2x - 3$
B) $y = -\frac{1}{2}x + 3$
C) $y = 2x - 3$
D) $y = \frac{1}{2}x - 3$

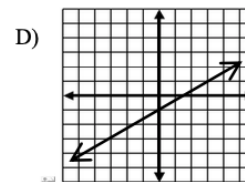
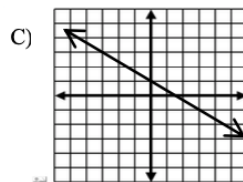
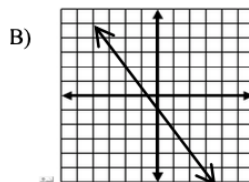
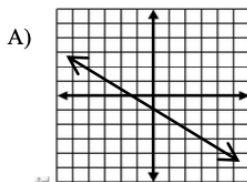
5. Which equation has a slope of $\frac{1}{4}$ and a y-intercept of 3?

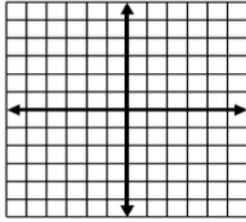
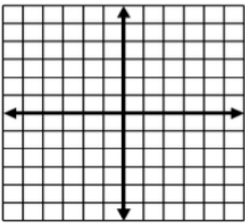
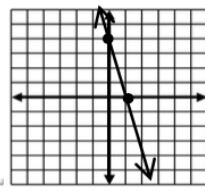
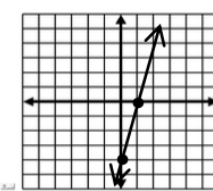
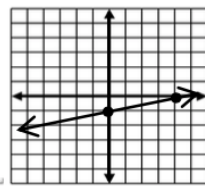
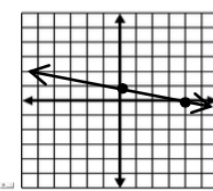
- A) $\frac{1}{4}x + 3y = 1$ B) $y = \frac{1}{4}x + 3$
C) $\frac{1}{4}x = y + 3$ D) $y = 3x + \frac{1}{4}$

6. Find the slope of the given points (3, 4) and (7, -4).

- A) $-\frac{1}{2}$
B) 2
C) -2
D) 0

7. Which of the following best presents the graph of a line with a slope of $-\frac{2}{3}$ and a y-intercept of -1?



<p>8. What are the x and y-intercepts of $3x - 5y = 15$?</p> <p>A) x-intercept (0, -3), y-intercept (5, 0) B) x-intercept (-3, 0), y-intercept (0, 5) C) x-intercept (0, 5), y-intercept (-3, 0) D) x-intercept (5, 0), y-intercept (0, -3)</p>	<p>9. Graph a line with a slope of 2 and goes through the point (-1, 3).</p> 
<p>10. Given $8x + 4y = 4$, identify the slope and y-intercept.</p> <p>A) Slope = -2 and y-int = 1 B) Slope = $-\frac{1}{2}$ and y = 1 C) Slope = 1 and y-int = -2 D) Slope = 2 and y-int = 1</p>	<p>11. What is the slope of the given points (0, -1) and (-2, -4)?</p> <p>A) $-\frac{3}{2}$ B) $-\frac{2}{3}$ C) $\frac{2}{3}$ D) $\frac{3}{2}$</p>
<p>12. Graph the equation $y = -\frac{2}{5}x$.</p> 	<p>13. Which graph represents the x & y-intercepts for $2y = 8 - 8x$?</p> <p>A) </p> <p>B) </p> <p>C) </p> <p>D) </p>
<p>14. What is the slope of the given graph?</p> <p>A) -1 B) 1 C) 0 D) 3</p> 