Personal Project 2019 Math Extra Resources

About

This is Nita Kattimani Personal Project for the school year of 2018- 2019. She hopes you find it helpful and fun. This covers MYP math 2 and MYP math 3. This was created in November of 2018 and the curriculum may change in the future for whatever reason.

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Math 2

Unit 1

1. Out of 1600 buttons produced by a button company, 3 buttons are defective. Estimate the number of defective discs if the company produces 48000 buttons in a day.

2. About 330 out of 900 gummy bears in a very large set of gummy bears are flavored grape. A small set has 60 gummy bears. Estimate the number of gummy bears that are flavored strawberry in a small pack of gummy bears.

3. A triangle's sides lengths are all whole numbers and it has a perimeter of 8. Write all the possible side lengths of the triangle.

If $x > 4$, then $x > 7$

4. Is the statement true? If not then write a counter example.
5. Write the converse. If not true, then write a counter example.
6. Write the contrapositive. If not true then write a counter example.
7. Write the inverse. If not true then write a counter example.

If I am in highschool, I am a freshman

8. Is the statement true? If not then write a counter example.
9. Write the converse. If not true, then write a counter example.
10. Write the contrapositive. If not true then write a counter example.
11. Write the inverse. If not true then write a counter example.

If a shape is square, it is a rectangle

12. Is the statement true? If not then write a counter example.
13. Write the converse. If not true, then write a counter example.
14. Write the inverse. If not true then write a counter example.
15. Write the contrapositive. If not true then write a counter example.

If an organism is an autotroph, it is also a producer.

16. Is the statement true? If not then write a counter example.
17. Write the converse. If not true, then write a counter example.
18. Write the inverse. If not true then write a counter example.
19. Write the contrapositive. If not true then write a counter example.

Predict the next number in each pattern

20. 2, 4, 8,
21. 2992, 29992, 299992,
22. 1, -2, -5,

Unit 2

(0,4) and (7,0)

23. Find the slope of the line connecting the two points?
24. Is it increasing, decreasing, or constant?

(6, 10) and (4,5)

25. Find the slope of the line connecting the two points?
26. Is it increasing, decreasing, or constant?

(5,7) and (11, 8)

27. Find the slope of the line connecting the two points?
28. Is it increasing, decreasing, or constant?

(3, 1,) and (10, 1)

29. Find the slope of the line connecting the two points?
30. Is it increasing, decreasing, or constant?

(2, 8) and (3, 4)

31. Find the slope of the line connecting the two points?
32. Is it increasing, decreasing, or constant?

(4, 1) and (7, 1)

33. Find the slope of the line connecting the two points?
34. Is it increasing, decreasing, or constant?

(6,50) and (13,90)

35. Find the slope of the line that connects the points below.
36. Find the vertical intercept
37. Write whether the function is increasing, decreasing, or constant to describe the graph.

(5,6) and (10,12)

38. Find the slope of the line that connects the points below.
39. Find the vertical intercept
40. Write whether the function is increasing, decreasing, or constant to describe the graph.

(7,4) and (21, 3)

41. Find the slope of the line that connects the points below.
42. Find the vertical intercept
43. Write whether the function is increasing, decreasing, or constant to describe the graph.

(91, 4) (41, 5)

44. Find the slope of the line that connects the points below.
45. Find the vertical intercept
46. Write whether the function is increasing, decreasing, or constant to describe the graph.
    (8,4) and (6, 3)
47. Find the slope of the line that connects the points below.
48. Find the vertical intercept
49. Write whether the function is increasing, decreasing, or constant to describe the graph.
    (9, 19) and (2, 16)
50. Find the slope of the line that connects the points below.
51. Find the vertical intercept

Find the value of y in the function $y = 15^x$ when

52. $x = 3$
53. $x = 1/2$
54. $x = 0$

Find the value of x in the function $y = 15^x$ when

55. $y = 3$
56. $y = 225$
57. $y = 1$

Unit 3

Solve each system by graphing

58. y=x-6 and y=3x+12
59. y=4x-2 and y=3x+5
60. y=-2x+6 and y=x-2
61. y=x and y=3x
62. y=6 and y=3x
63. y=x-4 and y=2x-1
64. y=3x-4 and y=-2x +4

Solve each equation using substitution

65. $y = 6x - 11$
    $-2x - 3y = -7$

66. $2x - 3y = -1$
    $y = x - 1$

67. $y = -3x + 5$
    $5x - 4y = -3$

68. $-3x - 3y = 3$
$y = -5x - 17$

69. $y = -2$
$4x - 3y = 18$

70. $y = 5x - 7$
$-3x - 2y = -12$

71. $-4x + y = 6$
$-5x - y = 21$

72. $-7x - 2y = -13$
$x - 2y = 11$

73. $x + 3y = 1$
$-3x - 3y = -15$

74. $-3x - 8y = 20$
$-5x + y = 19$

75. $-3x + 3y = 4$
$-x + y = 3$

76. $-3x + 3y = 3$
$-5x + y = 13$

77. $6x + 6y = -6$
$5x + y = -13$

78. $2x + y = 20$
$6x - 5y = 12$

79. $-3x - 4y = 2$
$3x + 3y = -3$

80. $-2x + 6y = 6$
$-7x + 8y = -5$

81. $-5x - 8y = 17$
$2x - 7y = -17$

82. $-2x - y = -9$
$5x - 2y = 18$

Solve each system using elimination

83. $-4x - 2y = -12$
$4x + 8y = -24$

84. $4x + 8y = 20$
$-4x + 2y = -30$

85. $x - y = 11$
$2x + y = 19$

86. $-6x + 5y = 1$
$6x + 4y = -10$

87. $-2x - 9y = -25$
$-4x - 9y = -23$

88. $8x + y = -16$
$-3x + y = -5$

89. $-6x + 6y = 6$
$-6x + 3y = -12$

90. $7x + 2y = 24$
$8x + 2y = 30$

91. $5x + y = 9$
$10x - 7y = -18$

92. $-4x + 9y = 9$
$x - 3y = -6$

93. $-3x + 7y = -16$
$-9x + 5y = 16$

94. $-7x + y = -19$
$-2x + 3y = -19$

95. $16x - 10y = 10$
$-8x - 6y = 6$

96. $8x + 14y = 4$
$-6x - 7y = -10$

97. $-4x - 15y = -17$

$-x + 5y = -13$

98. $-x - 7y = 14$
$-4x - 14y = 28$

99. $-7x - 8y = 9$
$-4x + 9y = -22$

100. $5x + 4y = -30$
$3x - 9y = -18$

101. $-4x - 2y = 14$
$-10x + 7y = -25$

102. $3x - 2y = 2$
$5x - 5y = 10$

103. $5x + 4y = -14$
$3x + 6y = 6$

104. $2x + 8y = 6$
$-5x - 20y = -15$

105. $-14 = -20y - 7$
$x+10y + 4 = 2x$

106. $3 + 2x - y = 0$
$-3 - 7y = 10x$

Unit 4

Factor

107. $x^2 - 7x + 10$
108. $x^2 - 12x + 35$
109. $x^2 + 3x + 2$
110. $-x^2 - 20x - 91$
111. $x^2 + 7x + 12$
112. $x^2 - 5x + 6$
113. $x^2 - 4x + 4$
114. $x^2 + x - 42$
115. $x^2 - 5x + 4$

116. $x^2 - 8x + 16$
117. $a^2 - 3a + 2$
118. $c^2 + 6c + 5$
119. $x^2 + 8x + 7$
120. $r^2 + 12r + 11$
121. $m^2 + 5m + 4$
122. $y^2 + 12y + 35$
123. $x^2 + 11x + 24$
124. $a^2 + 11a + 18$
125. $16 + 17c + c^2$
126. $x^2 + 2x + 1$
127. $z^2 + 10z + 25$
128. $a^2 - 8a + 7$
129. $a^2 - 6a + 5$
130. $x^2 - 5x + 6$
131. $x^2 - 11x + 10$
132. $y^2 - 6y + 8$
133. $15 - 8y + y^2$
134. $x^2 - 10x + 24$
135. $c^2 - 14c + 40$
136. $x^2 - 16x + 48$
137. $x^2 - 14x + 49$
138. $x^2 - x - 2$
139. $x^2 - 6x - 7$
140. $y^2 + 4y - 5$
141. $z^2 - 12z - 13$
142. $c^2 - 2c - 15$
143. $c^2 + 2c - 35$
144. $x^2 - 7x - 18$