JEFFERSON MATH PROJECT REGENTS BY TOPIC

NY Geometry Regents Exam Questions from Fall 2008 to August 2009 Sorted by Topic

(Answer Key)

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Dear Sir

I have to acknolege the reciept of your favor of May 14. in which you mention that you have finished the 6. first books of Euclid, plane trigonometry, surveying & algebra and ask whether I think a further pursuit of that branch of science would be useful to you. there are some propositions in the latter books of Euclid, & some of Archimedes, which are useful, & I have no doubt you have been made acquainted with them. trigonometry, so far as this, is most valuable to every man, there is scarcely a day in which he will not resort to it for some of the purposes of common life. the science of calculation also is indispensible as far as the extraction of the square & cube roots; Algebra as far as the quadratic equation & the use of logarithms are often of value in ordinary cases: but all beyond these is but a luxury; a delicious luxury indeed; but not to be indulged in by one who is to have a profession to follow for his subsistence. in this light I view the conic sections, curves of the higher orders, perhaps even spherical trigonometry, Algebraical operations beyond the 2d dimension, and fluxions.

Letter from Thomas Jefferson to William G. Munford, Monticello, June 18, 1799.

Geometry Regents Exam Question by Topic
Answer Section

1. ANS: C PTS: 2
2. ANS: B PTS: 2
3. ANS: D PTS: 2
4. ANS: B PTS: 2
5. ANS: B PTS: 2
6. ANS:
$y = \frac{2}{3}x - 9$

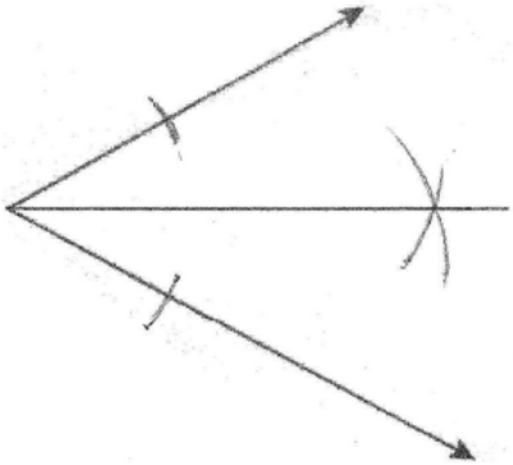
   PTS: 2
7. ANS:
$y = -2x + 14$

   PTS: 2
8. ANS: B PTS: 2
9. ANS: D PTS: 2
10. ANS:
$y = \frac{4}{3}x - 6$

    PTS: 4
11. ANS: C PTS: 2
12. ANS: A PTS: 2
13. ANS: D PTS: 2
14. ANS: B PTS: 2
15. ANS: B PTS: 2
16. ANS: D PTS: 2
17. ANS:
25

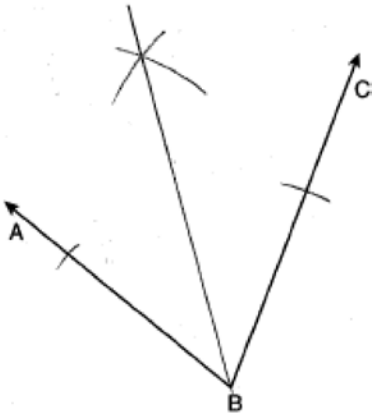
    PTS: 2
18. ANS: A PTS: 2
19. ANS: C PTS: 2
20. ANS: A PTS: 2
21. ANS: B PTS: 2
22. ANS: D PTS: 2
23. ANS: C PTS: 2
24. ANS: B PTS: 2
25. ANS: C PTS: 2
26. ANS: D PTS: 2
27. ANS: C PTS: 2

28. ANS:



PTS: 2

29. ANS:

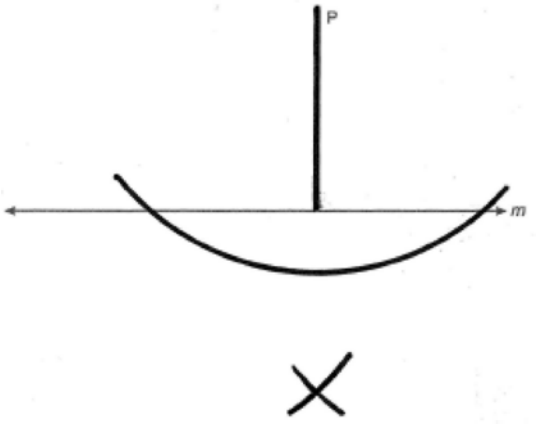


PTS: 2

30. ANS: C PTS: 2

31. ANS: C PTS: 2

32. ANS:



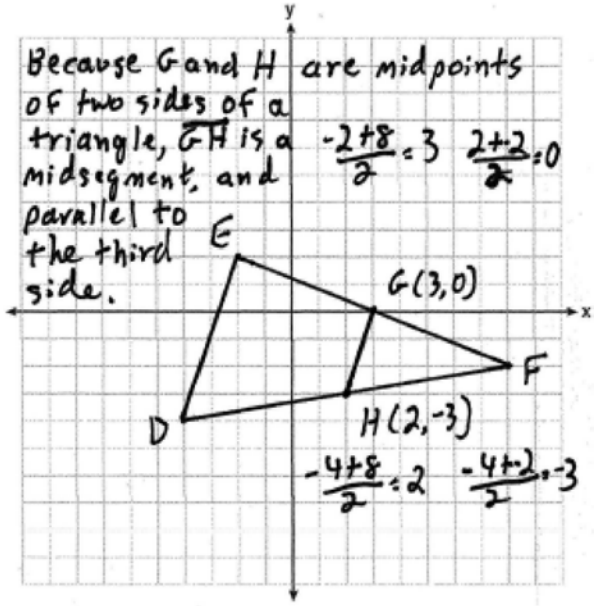
PTS: 2

33. ANS: A PTS: 2
34. ANS: D PTS: 2
35. ANS: A PTS: 2
36. ANS: A PTS: 2
37. ANS:
26

PTS: 2
38. ANS: B PTS: 2
39. ANS:
$\overline{AC}$

PTS: 2
40. ANS: A PTS: 2
41. ANS: D PTS: 2
42. ANS: B PTS: 2
43. ANS: B PTS: 2
44. ANS: D PTS: 2
45. ANS: D PTS: 2
46. ANS: C PTS: 2
47. ANS:
20

PTS: 2
48. ANS:



PTS: 4
49. ANS: C PTS: 2
50. ANS: D PTS: 2
51. ANS: B PTS: 2

52. ANS: D PTS: 2
53. ANS: A PTS: 2
54. ANS:
3

PTS: 2
55. ANS: C PTS: 2
56. ANS: D PTS: 2
57. ANS: A PTS: 2
58. ANS: C PTS: 2
59. ANS: A PTS: 2
60. ANS: D PTS: 2
61. ANS: B PTS: 2
62. ANS: A PTS: 2
63. ANS: B PTS: 2
64. ANS: A PTS: 2
65. ANS: C PTS: 2
66. ANS: B PTS: 2
67. ANS:
$\angle D$, $\angle G$ and 24° or $\angle E$, $\angle F$ and 84°

PTS: 4
68. ANS: B PTS: 2
69. ANS: B PTS: 2
70. ANS: D PTS: 2
71. ANS: C PTS: 2
72. ANS:
18

PTS: 4
73. ANS: B PTS: 2
74. ANS: C PTS: 2
75. ANS:
$15 + 5\sqrt{5}$

PTS: 4
76. ANS: A PTS: 2
77. ANS: A PTS: 2
78. ANS: A PTS: 2
79. ANS:
22.4

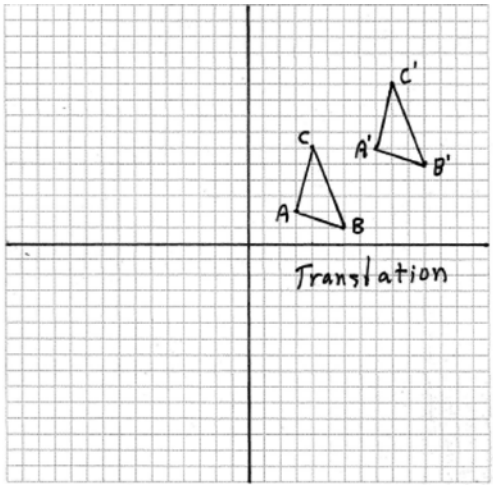
PTS: 2

80. ANS:
2016

PTS: 2
81. ANS: D PTS: 2
82. ANS:
20

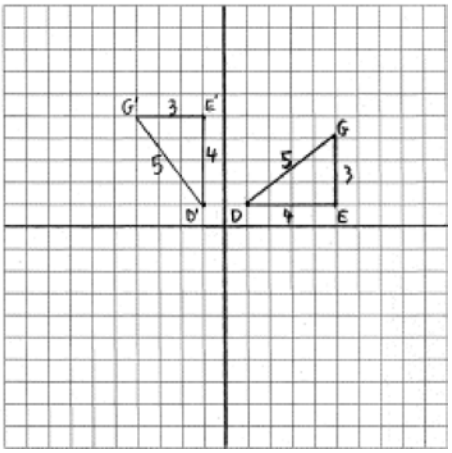
PTS: 2
83. ANS:
$2\sqrt{3}$

PTS: 2
84. ANS: A PTS: 2
85. ANS: D PTS: 2
86. ANS: D PTS: 2
87. ANS: D PTS: 2
88. ANS: B PTS: 2
89. ANS: A PTS: 2
90. ANS:



PTS: 2
91. ANS: D PTS: 2
92. ANS: A PTS: 2
93. ANS: C PTS: 2

94. ANS:

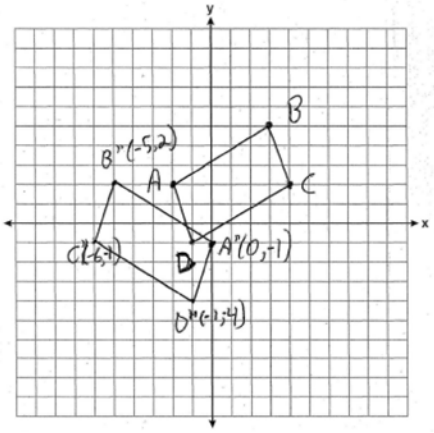


$D'(-1,1)$, $E'(-1,5)$, $G'(-4,5)$

PTS: 4

95. ANS: A PTS: 2

96. ANS:



PTS: 4

97. ANS: C PTS: 2

98. ANS: A PTS: 2

99. ANS: D PTS: 2

100. ANS: C PTS: 2

101. ANS:
True. The first statement is true and the second statement is false. In a disjunction, if either statement is true, the disjunction is true.

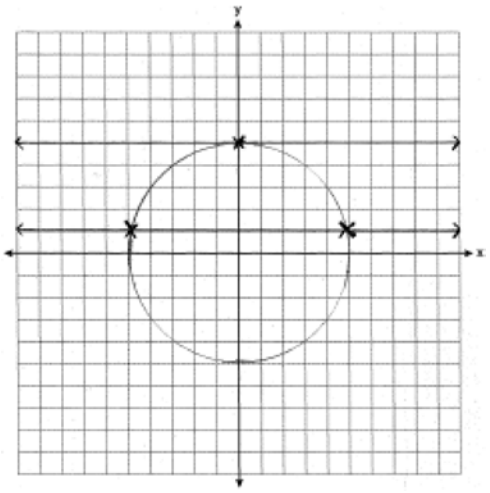
PTS: 2

102. ANS: D PTS: 2

103. ANS:
Contrapositive-If two angles of a triangle are not congruent, the sides opposite those angles are not congruent.

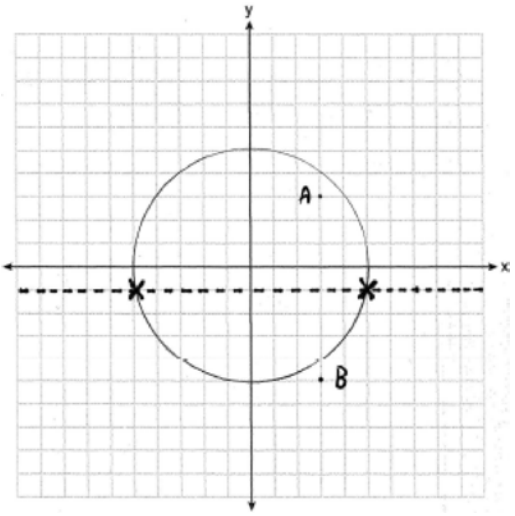
PTS: 2

104. ANS:



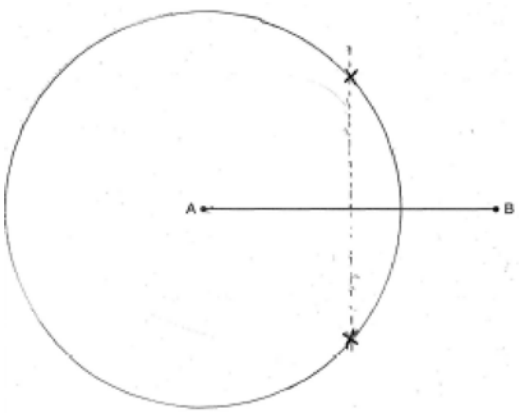
PTS: 4

105. ANS:



PTS: 4

106. ANS:



PTS: 2

107. ANS: D PTS: 2
108. ANS: A PTS: 2
109. ANS: B PTS: 2
110. ANS: C PTS: 2
111. ANS: C PTS: 2
112. ANS:

Because $\overline{AB} \parallel \overline{DC}$, $\overset{\frown}{AD} \cong \overset{\frown}{BC}$ since parallel chords intersect congruent arcs. $\angle BDC \cong \angle ACD$ because inscribed angles that intercept congruent arcs are congruent. $\overline{AD} \cong \overline{BC}$ since congruent chords intersect congruent arcs. $\overline{DC} \cong \overline{CD}$ because of the reflexive property. Therefore, $\triangle ACD \cong \triangle BDC$ because of SAS.

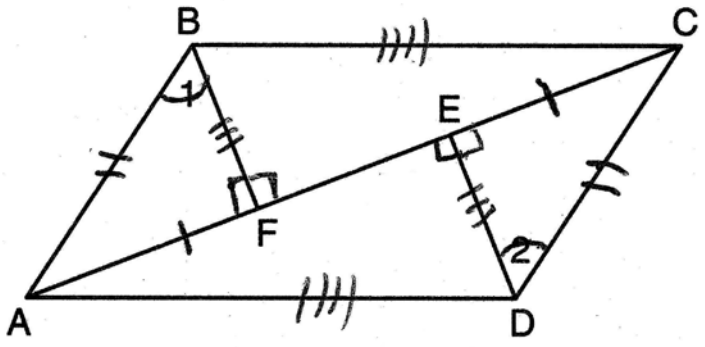
PTS: 6

113. ANS:

$\overline{AC} \cong \overline{EC}$ and $\overline{DC} \cong \overline{BC}$ because of the definition of midpoint. $\angle ACB \cong \angle ECD$ because of vertical angles. $\triangle ABC \cong \triangle EDC$ because of SAS. $\angle CDE \cong \angle CBA$ because of CPCTC. $\overline{BD}$ is a transversal intersecting $\overline{AB}$ and $\overline{ED}$. Therefore $\overline{AB} \parallel \overline{DE}$ because $\angle CDE$ and $\angle CBA$ are congruent alternate interior angles.

PTS: 6

114. ANS:



$\overline{FE} \cong \overline{FE}$ (Reflexive Property); $\overline{AE} - \overline{FE} \cong \overline{FC} - \overline{EF}$ (Angle Subtraction Theorem); $\overline{AF} \cong \overline{CE}$ (Substitution); $\angle BFA \cong \angle DEC$ (All right angles are congruent); $\triangle BFA \cong \triangle DEC$ (AAS); $\overline{AB} \cong \overline{CD}$ and $\overline{BF} \cong \overline{DE}$ (CPCTC); $\angle BFC \cong \angle DEA$ (All right angles are congruent); $\triangle BFC \cong \triangle DEA$ (SAS); $\overline{AD} \cong \overline{CB}$ (CPCTC); $ABCD$ is a parallelogram (opposite sides of quadrilateral $ABCD$ are congruent)

PTS: 6