FCAT Test Specs - Grade 10 Answer Key

1. D	MAA142
2. C	MAA144
3. .0039	MAA144
4. C	MAA341
5. A	MAA342
6. B	MAA343
7. 93.50	MAA343
8. C	MAA441
9. B	MAB141
10. 6	MAB141
11. B	MAB142
12. *p.72*	MAB141
13. 44	MAB142
14. C	MAB241
15. C	MAB242
16. 10890	MAB242
17. C	MAC141
18. A	MAC241
19. 30	MAC141
20. 17.7	MAC241
21. *p.105*	MAC241
22. C	MAC242
23. D	MAC341
24. 7	MAC341
25. B	MAC342
26. 437.5	MAD141
27. 2.24	MAC342
28. *p.123*	MAC342
29. 90	MAD141
30. B	MAD142
31. 5.2	MAD142
32. *p.136*	MAD142
33. A	MAD242
34. 270	MAD242
35. *p.144*	MAD242
36. C	MAE141
37. A	MAE341
38. *p.151*	MAE141
39. 3/6, 0.5	MAE141
40. A	MAE142
41. 2	MAE142
42. C	MAE241
43. 15	MAE241

Top-Score Response

Part A (a valid expression)

- $2(330.3) + \pi(d + 2(36))$
- OR $2(330.3) + \pi(210 + 72)$
- OR equivalent expression

AND

Part B (the correct distance)

- 1,546.08 (using 3.14 for π)
- OR 1,546.89 feet (using $\frac{22}{7}$ for π)

OR other acceptable rounded answer

Scoring Rubric

See Appendix D for the Short-Response Scoring Rubric.

Top-Score Response

Part A

- Triangle ADE and triangle ABC are similar because one triangle has two angles that are congruent to two angles in the other triangle and one angle in common.

OR other valid explanation

Part B

Proportion $\frac{240}{150} = \frac{200 + x}{200}$ OR other valid proportion

Part C $\frac{240}{150} = \frac{200 + x}{200}$

$150(200 + x) = 200(240)$
$30{,}000 + 150x = 48{,}000$
$150x = 18{,}000$
$x = 120$

OR other valid work leading to correct answer

Distance, in yards 120

Scoring Rubric

See Appendix D for the Extended-Response Scoring Rubric.

Top-Score Response

A top-score response includes Point C' plotted and labeled correctly on the coordinate grid and the correct coordinates of C' (Part A) and an explanation of how the monorail course is a parallelogram (Part B) as shown below.

Part A

Point C' should be plotted and labeled at (13, 9) on the coordinate grid

Coordinates of C' (13, 9)

Part B

- Show $\overline{AB}$ and $\overline{DC'}$ have equal slopes (parallel) and lengths (congruent)

  $\frac{12-5}{7-3} = \frac{9-2}{13-9} = \frac{7}{4}$ slope of both line segments

  $\sqrt{(7-3)^2 + (12-5)^2} = \sqrt{65}$

  $\sqrt{(13-9)^2 + (9-2)^2} = \sqrt{65}$

  OR

- Show $\overline{AD}$ and $\overline{BC'}$ have equal slopes (parallel) and lengths (congruent)

  $\frac{5-2}{3-9} = \frac{12-9}{7-13} = \frac{3}{-6} = -\frac{1}{2}$

  $\sqrt{(3-9)^2 + (5-2)^2} = \sqrt{45}$

  $\sqrt{(7-13)^2 + (12-9)^2} = \sqrt{45}$

  OR

- Both pairs of opposite sides are parallel

  OR

- Both pairs of opposite sides are congruent

Scoring Rubric

See Appendix D for the Short-Response Scoring Rubric.

Top-Score Response

A top-score response includes the correct difference in the two volumes and valid work to support the answer, as shown below.

Volume if height is increased by 1 foot
Radius = 4 and height = 7

$\pi(4^2)(7)$:

$3.14(4^2)(7) = 351.68$ OR

$\frac{22}{7}(4^2)(7) = 352$ OR

$\pi(4^2)(7) = 112\pi$

Volume if diameter is increased by 1 foot
Radius = 4.5 and height = 6

$\pi(4.5^2)(6)$:

$3.14(4.5^2)(6) = 381.51$ OR

$\frac{22}{7}(4.5^2)(6) = 381.86$ OR

$\pi(4^2)(6) = 121.5\pi$

Difference, in cubic feet (possible acceptable range) 29.83 to 29.86, or 9.5π

Scoring Rubric

See Appendix D for the Short-Response Scoring Rubric.

Top-Score Response

The top-score response includes a system of two equations and solutions for both variables, as shown below:

System of two equations, with x = amount at 6% and y = amount at 7%

$$x + y = 4000$$
$$0.06x + 0.07y = 267$$

Solution of system of equations:

$$x = 4000 - y$$
$$0.06(4000 - y) + 0.07y = 267$$
$$240 - 0.06y + 0.07y = 267$$
$$0.01y = 27$$
$$y = 2700$$
$$x = 4000 - 2700$$
$$x = 1300$$

OR Valid work that leads to correct solutions

Invested in 6% account _____ $1300 _____

Invested in 7% account _____ $2700 _____

Scoring Rubric

See Appendix D for the Short-Response Scoring Rubric.

Part B The scores for two students appear on the line $y = x$. Explain what must be true about the scores graphed on this line.

Part C Ms. Rodriguez believes that her students have shown improvement on the second test. How could Ms. Rodriguez analyze the graph to determine if her students are learning?

Item Context Mathematics

Top-Score Response A top-score response includes a correct solution for finding the mean score on the first test (Part A), an explanation of what the two scores graphed on line $y = x$ mean (Part B), and an explanation of how data in the graph demonstrate that students have shown improvement on the second test (Part C), as shown below:

Part A $2(60) + 2(70) + 4(80) + 85 + 2(90) + 95 = 940$
Sum of scores for first test
$\frac{940}{12} = 78.3$

OR Other valid work to show finding mean

Mean Score 78.3

Part B Both of the students whose scores are on line $y = x$ had the same score on each test.

OR Other valid explanation

Part C Of the 12 students who took both tests, 8 had a higher score for the second test, so $\frac{2}{3}$ of the students improved from the first test to the second test.

OR Other valid explanation

Scoring Rubric See Appendix D for the Extended-Response Scoring Rubric.