

Midterm Exam Review Solutions

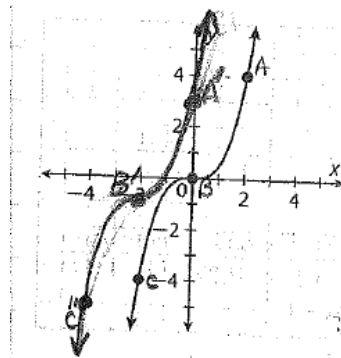
MULTIPLE CHOICE

1. $r = \sqrt{5}$
2. opposite sides are congruent
Opposite sides slopes are congruent
Diagonals bisect each other
Opposite sides parallel
Consecutive angles are supplementary
3. d
4. 26 square units
5. square, rectangle, triangle, trapezoid, parallelogram
6. 120 inches
7. 7.2 feet
8. -1
9. $x = 1.5, x = 2.5$
10. no real roots - $\pm 3i$ and $\pm i\sqrt{2}$
11. $5x^4 - 2x^3 + x$
12. $(3x+4)(x-2)$
13. $2x^3 + 7x^2y + 8xy^2 + 3y^3$
14. $g^{-1}(x) = -\frac{1}{3}x - \frac{5}{3}$
15. vertical shift up 6 units, horizontal compression of $\frac{1}{6}$

SHORT RESPONSE

1. 63π cubic feet, 197.92 cubic feet
2. $AB = \sqrt{45}$ $BC = \sqrt{90}$ $AC = \sqrt{45}$ two sides are equal.
3. (2, 6)
4. 22.129 units
5. 1583.4 cm^2
6. 234.5 cm^2
7. $\frac{1}{9}$
8. $m = 4289.3$ grams
9. 339 persons per square mile
10. $x^4 + 24x^3 + 216x^2 + 864x + 1296$
11. $(x-4), (x+5), (x-5)$
14. $f(x) = x^3 - 4x^2 + 9x - 36$
15. $x = -2, x = -1, x = 4$

12.



13.

