GRE 2024 Quant Practice Test 14 with Solutions

1. Quantity A: The slope of a line parallel to $4y + 18x = 13$.
Quantity B: The slope of a line perpendicular to $6y - 16x = 15$.
Which of the following is true?

(1) The two quantities are equal.
(2) The relationship between the quantities cannot be determined from the information provided.
(3) Quantity B is larger.
(4) Quantity A is larger.

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2. What is the equation of a line passing through the two points $(41, 11)$ and $(4, -9)$?

(1) $y = 2027x - 1415$
(2) $y = 1714x - 14825$
(3) $y = 2037x - 41337$
(4) $y = 14x - 18$
(5) $y = 72x - 853$

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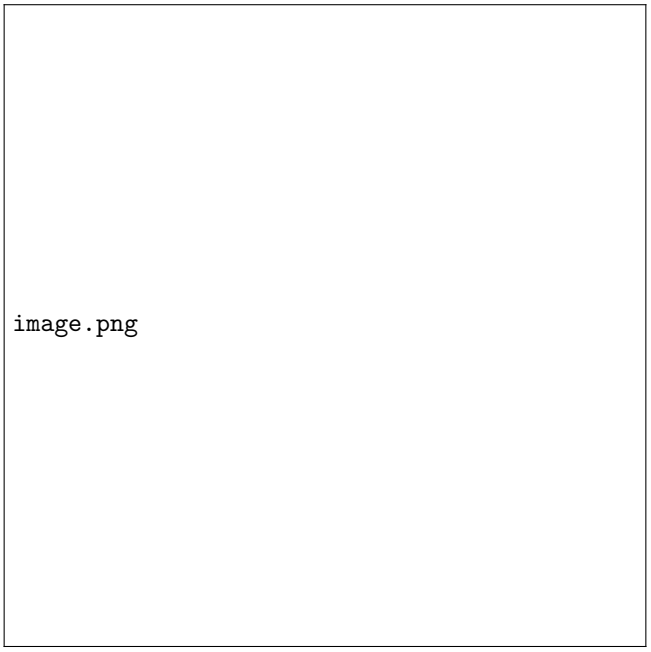
3. Given circle O with a diameter of 2 and square $ABCD$ inscribed within circle O, what is the area of the shaded region (circle minus square)?



(1) 2
(2) $\pi - 2$
(3) 4
(4) $4\pi - 2$

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4. Quantity A: Double the measure of a single interior angle of an equilateral triangle. Quantity B: The measure of a single interior angle of a (regular) hexagon. Which statement is true?

(1) The relationship cannot be determined with the information given.
(2) Quantity B is bigger.
(3) The quantities are equal.
(4) Quantity A is bigger.

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5. A rectangle has a length that is twice its height. If the perimeter of that rectangle is 20 in, what is its area?

(1) 400 in^2
(2) 1507 in^2
(3) 2509 in^2
(4) 103 in^2
(5) 2009 in^2

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6. A triangle has two sides with length a and one side length b. The length of side $b = 14$ yard. If the length of $a = 2$ times the length of side b, what is the perimeter of the triangle?

(1) 14 yard
(2) 612 yard
(3) 712 yard
(4) 13 yard
(5) 54 yard

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7. One side of an equilateral triangle is equal to 1. Quantity A: The area of the triangle. Quantity B: 12.

(1) Quantity A is greater.
(2) The relationship cannot be determined.
(3) Quantity B is greater.
(4) The two quantities are equal.

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8. What is the length of the diagonal of a cube that has a surface area of $726\,\text{in}^2$?

(1) $122\sqrt{in}$
(2) 22 in
(3) 12 in
(4) 11 in
(5) $113\sqrt{in}$

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9. A right circular cylinder of volume 200π has a height of 8. Quantity A: 10. Quantity B: The circumference of the base.

(1) Quantity B is greater.
(2) The relationship cannot be determined.
(3) The two quantities are equal.
(4) Quantity A is greater.

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10. If a sphere has a volume of $268.08\,\text{in}^3$, what is the approximate radius of the sphere?

(1) 8 in
(2) 4 in
(3) 64 in
(4) 4.5 in
(5) 5.9 in

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11. If $w = 18$, then which of the following is equal to w^2?

(1) 14
(2) 116
(3) 12
(4) 132
(5) 164

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12. It takes no more than 40 minutes to run a race, but at least 30 minutes. What equation will model this in m minutes?

(1) $m + 35 > 5$
(2) $m - 35 < 5$
(3) $m + 35 < 5$
(4) $m - 35 > 5$
(5) $m - 35 = 5$

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13. Solve the inequality $6(x - 1) < 7(3 - x)$.

(1) $x > 1327$
(2) $x < 2713$
(3) $x < 127$
(4) $x > -1327$
(5) $x > -1117$

14. Simplify: $\dfrac{(x^3 \cdot 2x^4 \cdot 5y + 4y^2 + 3y^2)}{y}$.

(1) $10x^7 + 7y^3$
(2) None of the other answers
(3) $10x^7y + 7y^2$
(4) $10x^{11} + 7y^3$
(5) $10x^7 + 7y$

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15. Solve for x: $14x = 256$.

(1) 256
(2) 4
(3) -14
(4) 14
(5) -4

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16. If one mile is equal to 5,280 feet, how many feet are 100 miles equal to in scientific notation?

(1) 5280×10^2
(2) $.528 \times 10^6$
(3) 528,000
(4) 5.28×10^5
(5) 528×10^3

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17. If a cash deposit account is opened with $7500 for a three year period at 3.5% interest compounded once annually, which of the following is closest to the positive difference between the interest accrued in the third year and the interest accrued in the second year?

(1) 281.2
(2) 81.41
(3) 9.51
(4) 0
(5) 11.41

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18. Let x and y be integers such that $0 \leq x < 5$ and $-4 \leq y \leq -1$. Compare:

Quantity A: $x - |y|$ Quantity B: 0

(1) Quantity B is greater
(2) Quantity A and Quantity B are equal

(3) The relationship cannot be determined from the information given
(4) Quantity A is greater

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19. Choose the answer which best simplifies the following expression: $2p^2 + 3p2a - 5p3$**.**

(1) $15p - 10pab$
(2) $6p + 9p - 10pab$
(3) $6p^2 + 9p - 10p^6$
(4) $6p^2 + 9p + 10pab$
(5) $6p^2 + 9p - 10pab$

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20. Simplify the following: $40 - \sqrt{420} - \sqrt{20} - \sqrt{160}$**.**

(1) $5 - \sqrt{(5 + 22 - \sqrt{})}$
(2) The expression cannot be simplified any further
(3) $\sqrt{810}$
(4) $10 - \sqrt{(6 + 2 - \sqrt{})}$
(5) $\sqrt{420}$
