

Exam 1



Q10

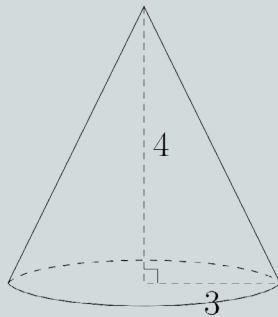
A bag contains 3 red, 2 blue, and 5 green balls. Two balls are drawn at random. What is the probability that both are green?

- A) $\frac{10}{45}$ C) $\frac{2}{9}$
 B) $\frac{1}{3}$ D) $\frac{1}{5}$

Q12

What is the surface area of a cone with a base radius of 3 cm and a height of 4 cm?

- A) $12\pi \text{ cm}^3$
 B) $18\pi \text{ cm}^3$
 C) $24\pi \text{ cm}^3$
 D) $36\pi \text{ cm}^3$



Q14

Solve the equation $\sqrt{75} + x\sqrt{27} = 2$.

- A) $\frac{-2 - 5\sqrt{3}}{3\sqrt{3}}$ C) $\frac{2 + 5\sqrt{3}}{3\sqrt{3}}$
 B) $\frac{-2 + 5\sqrt{3}}{3\sqrt{3}}$ D) $\frac{2 - 5\sqrt{3}}{3\sqrt{3}}$

Q16

Solve the system of equations: $2x + 3y = 5$ and $3x + 2y = 5$.

Q11

In a triangle ABC, $AB = AC$ and $BC = 10$ units. If the area of the triangle is 30 square units, find the length of AB and AC.

Q13

Solve the inequality $3x - 7 < 2x + 5$
Write the solution(s).

Q15

Given the quadratic function $y = x^2 - 4x + 3$, apply the transformation that results in $y = (x - 2)^2 + 1$.

Exam 1



Q17

The sum of the ages of two siblings is 26 years, and one is 6 years older than the other. How old is the younger sibling?

- A) 10 years
- B) 12 years
- C) 15 years
- D) 20 years

Q18

Convert 135° into radians.

Q19

A line passes through the points $(-2, -4)$ and $(3, 1)$. What is the slope-intercept form equation of the line?

- A) $y = -x + 2$
- B) $y = x + 2$
- C) $y = -x - 2$
- D) $y = x - 2$

Q20

A rectangle's length is three times its width. If the area of the rectangle is 108 square units, what is the perimeter of the rectangle?

- A) 6 units
- B) 24 units
- C) 12 units
- D) 48 units

Q21

Simplify the expression $2\sqrt[3]{x^9} \times 4\sqrt[4]{x^{12}}$

- A) $8x^9$
- B) $8x^{7.5}$
- C) $8x^6$
- D) $8x^{4.5}$



Q22

Given the set $\{25, 18, 13, 14, 15, 15, 16, 9, 12\}$. Find the difference between the range and the mean.

Q23

If the exterior angle of a regular polygon is 30 degrees, What is the sum of interior angles?

Q24

If $\frac{x}{y} = 3$ and $x + y = 28$, what is the value of x ?

- A) 18
- B) 20
- C) 21
- D) 24

Q25

The graph of $y = ax^2 + bx + c$ passes through $(-1, 2)$, $(0, 1)$, and $(1, 0)$. Find b .
