

Summer Packet for Students Entering
Calculus (AP & Level 2)

- ① $\frac{4}{5}$
- ② $\frac{3}{4}$
- ③ $\frac{4}{3}$
- ④ a) $\frac{\sqrt{2}}{2}$, b) 0, c) $-\frac{\sqrt{3}}{3}$, d) $-\frac{\sqrt{3}}{2}$, e) -1, f) $-\frac{\sqrt{3}}{2}$
- ⑤ a) 3, b) $\frac{1}{2}$, c) $\frac{3}{2}$, d) -2
- ⑥ a) $3 + 3 \log_2 x + 2 \log_2 y - \frac{1}{2} \log_2 z$, b) $\ln 5 + 4 + 5 \ln a$
- ⑦ a) $\log_4\left(\frac{a^3\sqrt{b}}{c^5}\right)$, b) $\ln\left(\frac{(xy)^{\frac{1}{3}}}{z^4}\right)$
- ⑧ a) $x = 4$, b) $x = 49$
- ⑨ $x = \frac{7}{3}$
- ⑩ $x = 4$
- ⑪ $x = -12, 2$
- ⑫ \$2,844.93
- ⑬ \$1,843.20
- ⑭ Crystal Clear - 17 bags, Blue Ice - 103 bags
- ⑮ Crystal Clear - 8 bags, Blue Ice - 19 bags
- ⑯ 243,200 customers
- ⑰ 118 pounds
- ⑱ Even
- ⑲ Odd
- ⑳ Neither
- ㉑ $2xy^3\sqrt{5y}$
- ㉒ $2a^3b^2$
- ㉓ $-12x^3y^4z\sqrt{2y}$
- ㉔ $\frac{3x}{y^4}$

- ②⑤ $-\frac{3b^3}{2a^5c^2}$
- ②⑥ $x^2 + 2x - 4$
- ②⑦ $x^2 - 4x + 2$
- ②⑧ $(x - 16)(x + 3)$
- ②⑨ $(2a + 5)(2a - 5)$
- ③⑩ $(3b - 2)(b - 2)$
- ③⑪ $(h - 2)(h^2 + 2h + 4)$
- ③⑫ $(d + 3)(d^2 - 3d + 9)$
- ③⑬ $x = 2$
- ③⑭ $x = 6$
- ③⑮ $-2 < x < 9$
- ③⑯ $x < -7$ or $x > 2$