

$$1. d(y) = \sqrt{13 - 6y}$$

$$2. A(y) = 2y\sqrt{25 - y^2}$$

$$3. P(y) = 2y + 4\sqrt{25 - y^2}$$

$$4. C(x) = \frac{3}{4}\pi x + \frac{2400}{x} + 4x \text{ (where } x \text{ represents the length of the fence along the road)}$$

$$5. C(x) = 5x + \frac{50000}{x} \text{ (where } x \text{ represents the length of the property along the river)}$$

$$6. F(x) = 4x + \frac{15000}{x}$$

$$7. A(x) = \frac{200}{3}x - \frac{8}{3}x^2$$

$$8. d(x) = \sqrt{x^4 + x^2 - 2x + 1}$$

$$9. d(x) = \sqrt{8 - 4x - 3x^2}$$