

$$1 \text{ (C)} \quad x^2 + \frac{3x^{3/2}}{\sqrt{x}}$$

$$= x^2 + 3x^{\frac{3}{2}-\frac{1}{2}}$$

$$= x^2 + 3x$$

2 (B) 0

3. (A) 4

4. (D) not defined

$$5. \quad p(2\sqrt{2}) = (2\sqrt{2})^2 - 2\sqrt{2} \times 2\sqrt{2} + 1$$

$$= 8 - 8 + 1$$

$$= 1$$

(B)

$$6. \quad 5(-1) - 4(-1)^2 + 3$$

$$= -5 - 4 + 3$$

$$= -6$$

(A)

$$7. \quad p(x) + p(-x)$$

$$= \cancel{x} + 3 + (-\cancel{x}) + 3$$

$$= 6$$

8. (C) any real no.

$$9. \quad 2x + 5 = 0$$

$$\Rightarrow x = -\frac{5}{2}$$

(B)

ex 2.1 1x exemplar

$$10. \quad 2x^2 + 7x - 4$$

$$= 2x^2 + 8x - x - 4$$

$$= 2x(x+4) - 1(x+4)$$

$$= (2x-1)(x+4)$$

For zeros

$$2x-1=0 \quad | \quad x+4=0$$

$$\Rightarrow x = \frac{1}{2} \quad | \quad x = -4$$

(B)  $\frac{1}{2}$

$$11. \quad (-1)^{51} + 51$$

$$= -1 + 51$$

$$= 50$$

(D)

$$12. \quad 2(-1)^2 + k(-1) = 0 \quad \text{[factor theorem]}$$

$$\Rightarrow 2 - k = 0$$

$$\Rightarrow k = 2$$

(C)

$$13. \text{ (A)} \quad (-1)^3 + (-1)^2 - (-1) + 1$$

$$= -1 + 1 + 1 + 1$$

$$= 2 \quad \text{not a factor}$$

$$\text{(B)} \quad (-1)^3 + (-1)^2 + (-1) + 1$$

$$= -1 + 1 - 1 + 1$$

$$= 0 \quad \text{factor}$$

$$\text{(B)} \quad x^3 + x^2 + x + 1$$

$$14. \quad 25x^2 - 1 + (1+5x)^2$$

$$= 25x^2 - 1 + 1 + 25x^2 + 10x$$

$$= 50x^2 + 10x$$

$$= 10x(5x+1)$$

(D) 10x