

Ex 28.10

- 1)  $(a^2 + 3x)^2 = a^4 + 6a^2x + 9x^2$  ✓
- 2)  $(b^2 - 5y)^2 = b^4 - 10b^2y + 25y^2$  ✓
- 3)  $(r^2 + 4s)^2 = r^4 + 8r^2s + 16s^2$  ✓
- 4)  $(m^2 - 6n)^2 = m^4 - 12m^2n + 36n^2$  ✗

Ex 28.11

- 1)  $(c^2 + d^2)^2 = c^4 + 2c^2d^2 + d^4$  ✓
- 2)  $(m^2 - n^3)^2 = m^4 + n^6 - 2m^2n^3$  ✓
- 3)  $(z^2 + t^3)^2 = z^4 + t^6 + 2z^2t^3$  ✓
- 4)  $(p^2 - q^2)^2 = p^4 + q^4 - 2p^2q^2$  ✓

Ex 28.12

- 1)  $(a^3 + 3b)^2 = a^6 + 9b^2 + 6a^3b$  ✓
- 2)  $(4x^2 - 3c)^2 = 16x^4 + 9c^2 - 24x^2c$  ✓
- 3)  $(5m^2 + 3n)^2 = 25m^4 + 9n^2 + 30m^2n$  ✗
- 4)  $(6p^2 - 8g^3)^2 = 36p^4 + 64g^6 - 96p^2g^3$  ✗

Ex 28.13

- 1)  $(2\frac{1}{3}a - 1\frac{1}{14}b)^2 = (\frac{7}{3}a - \frac{15}{14}b)^2 = \frac{49}{9}a^2 + \frac{225}{196}b^2 - 5ab$  +
- 2)  $(0.9x + 1\frac{13}{27}y)^2 = (\frac{9}{10} + \frac{40}{27})^2 = \frac{81}{100}x^2 + \frac{1600}{729}y^2 + \frac{8}{3}xy$
- 3)  $(-1.2x - 4\frac{1}{6}y)^2 = (-\frac{12}{10}x - \frac{25}{6}y)^2 = \frac{144}{100}x^2 + \frac{625}{36}y^2 - 10xy$
- 4)  $(-2.3a + 1\frac{2}{23}b)^2 = (-\frac{23}{10}a + \frac{25}{23}b)^2 = \frac{529}{100}a^2 + \frac{625}{529}b^2 - 5ab$

Ex 28.14

- 1)  $(80 - 1)^2 = 6400 + 1 - 160 = 6241 = 79^2$  ✓
- 2)  $(40 - 1)^2 = 1600 + 1 - 80 = 1521 = 39^2$  ✓
- 3)  $(60 - 1)^2 = 3600 + 1 - 120 = 3481 = 59^2$
- 4)  $(70 - 1)^2 = 4900 + 1 - 140 = 4761 = 69^2$

Ex 28.15

- 1)  $(20 + 1)^2 = 400 + 1 + 40 = 441 = 21^2$
- 2)  $(30 + 1)^2 = 900 + 1 + 60 = 961 = 31^2$
- 3)  $(60 + 1)^2 = 3600 + 1 + 120 = 3721 = 61^2$
- 4)  $(90 + 1)^2 = 8100 + 1 + 180 = 8281 = 91^2$



$$\left(\frac{1}{2}\right)^2 = \left(\frac{3}{2}\right)^2 = \left(\frac{9}{4}\right)^2 = 2\frac{1}{4}, \left(1\frac{1}{2}\right)^2 = 1\frac{1}{4}$$

$$\left[1\frac{1}{2} = 1\frac{1}{4}\right]$$

Ex 28.16

- 1)  $(40+2)^2 = 1600 + 4 + 160 = 1764 = 42^2$
- 2)  $(60+2)^2 = 3600 + 4 + 240 = 3844 = 62^2$
- 3)  $(80+2)^2 = 6400 + 4 + 320 = 6724 = 82^2$
- 4)  $(30+2)^2 = 900 + 4 + 120 = 1024 = 32^2$

Ex 28.17

- 1)  $(100-2)^2 = 10000 + 4 - 400 = 9604 = 98^2$
- 2)  $(30-2)^2 = 900 + 4 - 120 = 784 = 28^2$
- 3)  $(90-2)^2 = 8100 + 4 - 360 = 7744 = 88^2$
- 4)  $(60-2)^2 = 3600 + 4 - 240 = 3364 = 58^2$

Ex 28.18

- 1)  $\left(12\frac{1}{12}\right)^2 = \left(\frac{145}{12}\right)^2 = \frac{21025}{144} = 146\frac{1}{44}$
- 2)  $\left(-7\frac{2}{7}\right)^2 = \left(-\frac{47}{7}\right)^2 = \frac{2209}{49} = 45\frac{4}{49}$
- 3)  $\left(7\frac{3}{14}\right)^2 = \left(\frac{101}{14}\right)^2 = \frac{10201}{196} = 52\frac{9}{196}$
- 4)  $\left(-13\frac{3}{13}\right)^2 = \left(-\frac{166}{13}\right)^2 = \frac{27556}{169} = 219\frac{9}{169}$

Ex 28.19

- 1)  $\left(12\frac{12}{13}\right)^2 = \left(\frac{168}{13}\right)^2 = \frac{28224}{169} = 167\frac{1}{169}$
- 2)  $\left(14\frac{13}{15}\right)^2 = \left(\frac{213}{15}\right)^2 = \frac{45369}{225} = 201\frac{144}{225}$
- 3)  $\left(39\frac{39}{40}\right)^2 = \left(\frac{1599}{40}\right)^2 = \frac{2556801}{1600} = 1597\frac{1}{1600}$
- 4)  $\left(15\frac{13}{16}\right)^2 = \left(\frac{253}{16}\right)^2 = \frac{64009}{256} = 250\frac{9}{256}$