# 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) $\left(2\frac{1}{3}a - 1\frac{1}{14}b\right)^2 = \left(\frac{7}{3}a - \frac{15}{14}b\right)^2 = \frac{49}{9}a^2 + \frac{225}{196}b^2 - 5ab$

2) $\left(0.9x + 1\frac{13}{27}y\right)^2 = \left(\frac{9}{10} + \frac{40}{27}\right)^2 = \frac{81}{100}x + \frac{1600}{729}y + \frac{8}{3}xy$

3) $\left(-1.2x - 4\frac{1}{6}y\right)^2 = \left(-\frac{12}{10}x - \frac{25}{6}y\right)^2 = \frac{144}{100}x - \frac{625}{36}y - 10xy$

4) $\left(-2.3a + 1\frac{2}{23}b\right)^2 = \left(-\frac{23}{10}a + \frac{25}{23}b\right)^2 = \frac{529}{100}a + \frac{625}{529}b - 5ab$

# 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) $(90 + 1)^2 = 8100 + 1 + 180 = 8281 = 91^2$

# 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) $\left(12\frac{1}{12}\right)^2 = \left(\frac{145}{12}\right)^2 = \frac{21025}{144} = 146\frac{1}{144}$

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) $\left(-13\frac{3}{13}\right)^2 = \left(\frac{-166}{13}\right)^2 = \frac{27556}{165} = 2119\frac{9}{169}$

# 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) $\left(39\frac{39}{40}\right)^2 = \left(\frac{1599}{40}\right)^2 = \frac{2556801}{1600} = 1597\frac{1}{..}$

4) $\left(15\frac{13}{16}\right)^2 = \left(\frac{253}{16}\right)^2 = \frac{64009}{256} = 250\frac{9}{256}$

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

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

$$\boxed{1{,}5^2 = 1.25}$$