Square Numbers

Workout

Question 1

(a) 3×3 (b) 1×1 (c) 6×6 (d) 9×9 (e) 10×10 (f) 4×4 (g) 12×12

Question 2

(a) 2^2 (b) 5^2 (c) 11^2 (d) 35^2 (e) 20^2 (f) 13^2 (g) 7^2

Question 3

(a) 25 (b) 9 (c) 64 (d) 81 (e) 4 (f) 100 (g) 49

(h) 1 (i) 16 (j) 36 (k) 121 (l) 400 (m) 144 (n) 2500

Question 4: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100

Question 5:

(a) 196 (b) 324 (c) 441 (d) 729 (e) 1225 (f) 361 (g) 784

(h) 1849 (i) 3136 (j) 6561 (k) 8464 (l) 9801 (m) 14400 (n) 26569

Question 6:

(a) 5329 (b) 3481 (c) 43264 (d) 39601 (e) 42.25 (f) 67.24 (g) 60.84

(h) 0.49 (i) 761.76 (j) 0.2025 (k) 365.1921 (l) 640000 (m) 1000000

(n) 1234321

Apply

Question 1: 4, 81, 16 and 121

Question 2: 36 and 64

Question 3: (a) 81 and 4 (b) 36 and 49

Question 4: 1 squared is 1 (equal) or 0.6 squared is 0.36 (smaller)

Question 5: (a) 1, 3, 6, 10, 15, 21, 28, 36, 45, 55

(b) 4 (c) 9 (d) 16

(e) They are square numbers

(f) Yes + explanation about triangles forming squares   *see notes at end

Question 6:   No, as 1 + 4 + 19 = 24   O + E + O = even

Question 7:   Duncan has multiplied each number by 2 instead of by itself.

*I didn't expect question 5(f) to be a proof question, but if interested…

$$Tn = \frac{n(n+1)}{2} \qquad T(n+1) = \frac{(n+1)(n+2)}{2}$$

$$Tn + T(n+1) = n^2 + 2n + 1$$

$$Tn + T(n+1) = (n+1)^2$$