

$$\frac{a}{q} \times a \times q \times a = a^2 = 48 \rightarrow a = \sqrt{48} \rightarrow \frac{a}{q} + a + aq = \frac{a^2 + a^2 + a^2}{q} = 21$$

$$21q = a^2 + a^2 + a^2 \rightarrow 21q = 3a^2 \rightarrow 7q = a^2 \rightarrow a = \sqrt{7q}$$

$$(q+1)(q+17) = 0 \rightarrow q = -1 \text{ or } q = -17$$

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$$b^2 = ac \rightarrow 4x^2 = (x^2 - 2)(x^2 + 4)$$

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

$$2x^2 - x^4 + 8 = 0$$

$$x^4 - 2x^2 - 8 = 0$$

$$(x^2 - 4)(x^2 + 2) = 0$$

$$x = \pm 2$$

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$$1 \times \frac{r^5 - 1}{r - 1} = 1024 - 1 = 1023$$

$$a, aq, aq^2, aq^3, aq^4$$

$$14r, 14r^2, 14r^4, 14r^8, 14r^{16}$$

$$14r(1 + r + r^2 + r^4 + r^8) = 14r \times 1023 = 14322$$

$$\frac{r^5 - 1}{r - 1} = \frac{r^5}{r} = 1024$$

$$1, 11, 121, 1331, 14641, 161051, 1771561, 194481$$

$$\frac{b}{a} = q \rightarrow \frac{q^5}{1} = q^5 \rightarrow q = 2 \rightarrow 1, 2, 4, 8, 16, 32, 64$$

$$q = -2 \rightarrow A + B = 2^5, 2 - 1 = 31$$

$$B = -1$$

$$-24, -\frac{90}{r}, \dots$$

$$14an + b = -24 \rightarrow 14a + b = -24 \rightarrow b = -24 - 14a \rightarrow \frac{90}{14} \times 1.1 - 24 \times 1.1 = 1$$

$$121, ar, \dots \rightarrow \frac{1}{121} = q^{n+1} \rightarrow q^5 = \frac{1}{121} \rightarrow q = \frac{1}{11}$$

$$a + rd, a + 2d, a + 3d$$

$$\frac{a + 4d}{a + d} = \frac{a + 1d}{a + 4d} \rightarrow (a + 4d)^2 = (a + d)(a + 1d) \rightarrow a^2 + 8ad + 16d^2 = a^2 + 2ad + d^2$$

$$16d^2 + 8ad = 0$$

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$$d(16d + 8a) = 0$$

$$\frac{d - 0}{16d + 8a} = 0 \rightarrow d = -\frac{2a}{4}$$

