

9-10-13
3rd Trig

Solve for the variable

$$\begin{aligned} \textcircled{1} \quad & 5(2n-1) - (2n-3) = 3n-7 \\ & 10n-5 - 2n+3 = 3n-7 \\ & 8n-2 = 3n-7 \\ & \frac{-3n}{-3n} \quad \frac{-3n}{-3n} \\ & \underline{5n-2 = -7} \\ & \frac{+2}{+2} \quad \frac{+2}{+2} \\ & \underline{5n = -5} \\ & \frac{5}{5} \quad \frac{5}{5} \\ & n = -1 \end{aligned}$$

Simplify

$$\textcircled{2} \quad a^4 \cdot a^2 = a^6$$

aaaa aa

$$\textcircled{3} \quad (a^4)^2 = a^4 \cdot a^4 = aaaaaaaa = a^8$$

$$\textcircled{4} \quad (3a^2y^4)^3 = 3a^2y^4 \cdot 3a^2y^4 \cdot 3a^2y^4$$

27a⁶y¹²

$$\textcircled{5} \quad 2ny + 3n^2y + 6ny + 4n^2y$$

8ny + 7n²y

$$\textcircled{6} \quad (n+3)(n+11)$$

n²+11n+3n+33

n²+14n+33

$$\textcircled{7} \quad (3n^2+1)(5n^2-2)$$

15n⁴-6n²+5n²-2

15n⁴-n²-2

$$\begin{aligned} \textcircled{8} \quad & 2n^3(3n^2)^2 + 5n^2 \cdot 2n^5 \\ & 2n^3 \cdot 3n^2 \cdot 3n^2 + 5n^2 \cdot 2n^5 \\ & 18n^7 + 10n^7 \\ & 28n^7 \end{aligned}$$

$$\begin{aligned} \textcircled{9} \quad & \sqrt{a^2 b^5} \\ & a b b \sqrt{a a b b b b} \\ & ab^2 \sqrt{b} \end{aligned}$$

$$\begin{aligned} \textcircled{10} \quad & \sqrt[3]{16a^4} \\ & \begin{array}{l} 16 \\ \wedge \\ 8 \textcircled{2} \\ \wedge \\ 4 \textcircled{2} \\ \wedge \\ 2 \textcircled{2} \end{array} \quad \sqrt[3]{2 \cdot 2 \cdot 2 \cdot 2 \cdot a \cdot a \cdot a \cdot a} \\ & 2a \sqrt[3]{2a} \end{aligned}$$

$$\begin{aligned} \textcircled{11} \quad & \frac{6 + \sqrt{-8}}{2} \quad \sqrt{-8} = \sqrt{-1 \cdot 2 \cdot 2 \cdot 2} \\ & \frac{6 + 2i\sqrt{2}}{2} \\ & 3 + i\sqrt{2} \end{aligned}$$

$$\begin{aligned} \textcircled{12} \quad & \left(\frac{-2a^{-2}}{5} \right)^{-2} \\ & \text{Always clean up first} \\ & \left(\frac{-2}{5a^2} \right)^{-1 \cdot 2} \\ & \left(\frac{5a^2}{-2} \right)^2 = \frac{5a^2}{-2} \cdot \frac{5a^2}{-2} = \frac{25a^4}{4} \end{aligned}$$

9-10-13
4th Trig
Ch. 1 Review

$$\textcircled{1} 3(2n-1) - (2n+3) = 2n+7$$

$$6n-3 \cdot 2n-3 = 2n+7$$

$$4n-6 = 2n+7$$

$$\begin{array}{r} -2n \quad -2n \\ \hline 2n-6 = 7 \\ +6 \quad +6 \\ \hline 2n = 13 \\ \frac{2n}{2} = \frac{13}{2} \\ n = 6\frac{1}{2} \end{array}$$

$$\textcircled{2} n^3 \cdot n^4 = n^7$$

nnn nnnn

$$\textcircled{3} (n^5)^2 = n^5 \cdot n^5$$

nnnnn nnnnn = n¹⁰

$$\textcircled{4} (n+3)(2n+5)$$

$$2n^2 + 5n + 6n + 15$$

$$2n^2 + 11n + 15$$

$$\textcircled{5} (3n^2+5)(2n^2-1)$$

$$6n^4 - 3n^2 + 10n^2 - 5$$

$$6n^4 + 7n^2 - 5$$

$$\textcircled{6} \underline{3ny} - \underline{6ny^2} - \underline{ny} - \underline{2ny^2}$$

$$2ny - 8ny^2$$

$$\textcircled{7} (2a^2)(4a^4) + (3a^2)^3$$

$$2a^2 \cdot 4a^4 + 3a^2 \cdot 3a^2 \cdot 3a^2$$

$$8a^6 + 27a^6$$

$$35a^6$$

$$\textcircled{8} \quad \sqrt{8a^4b^3}$$

$$2aab \sqrt{\cancel{2} \cdot \cancel{2} \cdot 2 \cancel{a} \cancel{a} \cancel{a} bbb}$$

$$2a^2b \sqrt{2b}$$

$$\textcircled{9} \quad \sqrt[3]{16a^4}$$

$$\sqrt[3]{\cancel{2} \cdot \cancel{2} \cdot \cancel{2} \cdot 2 \cancel{a} \cancel{a} \cancel{a}}$$

$$2a \sqrt[3]{2a}$$

$$\textcircled{10} \quad \frac{6 \pm \sqrt{-18}}{3}$$

$$\sqrt{-18} = \sqrt{-1 \cdot 2 \cdot 3 \cdot 3}$$

$$3i\sqrt{2}$$

$$\frac{6 \pm 3i\sqrt{2}}{3}$$

$$2 \pm i\sqrt{2}$$

$$\textcircled{11} \quad \left(\frac{-3a^{-2}}{5} \right)^{-2}$$

Clean up
inside first

$$\left(\frac{-3}{5a^2} \right)^{-1.2}$$

$$\left(\frac{5a^2}{-3} \right)^2$$

$$\frac{5a^2}{-3} \cdot \frac{5a^2}{-3} = \frac{25a^4}{9}$$