Predict the equilibrium concentration of PCl_5 in the reaction described below (for which Kc = 0.04200 at the reaction temperature) by constructing an ICE table, writing the equilibrium constant expression, and solving for the equilibrium concentration. Complete Parts 1-3 before submitting your answer.

$$PCl_5(g) \rightleftharpoons PCl_3(g) + Cl_2(g)$$

1 2 3 NEXT ›

An initial quantity of 2.860 g of PCl_5 decomposes in a 700.0 mL closed container. Fill in the ICE table with the appropriate value for each involved species to determine the concentrations of all reactants and products.

	$PCl_5(g)$	⇌	$PCl_3(g)$	+	$Cl_2(g)$
Initial (M)					
Change (M)					
Equilibrium (M)					

Kc, so units are Molarity $M = \frac{mol}{L}$

PCl_5 has molar mass of 208.24 g = 1 mol.

2.860 g PCl_5 ⇒ mol PCl_5

Predict the equilibrium concentration of PCl_5 in the reaction described below (for which Kc = 0.04200 at the reaction temperature) by constructing an ICE table, writing the equilibrium constant expression, and solving for the equilibrium concentration. Complete Parts 1-3 before submitting your answer.

$$PCl_5(g) \rightleftharpoons PCl_3(g) + Cl_2(g)$$

1 2 3 NEXT

An initial quantity of 2.860 g of PCl_5 decomposes in a 700.0 mL closed container. Fill in the ICE table with the appropriate value for each involved species to determine the concentrations of all reactants and products.

$= 0.7000\ L$

Kc, so units are Molarity $M = \frac{mol}{L}$

PCl_5 has molar mass of 208.24 g = 1 mol.

2.860 g PCl_5 ⇒ mol PCl_5

$$2.86\ g\ PCl_5 \times \frac{1\ mol\ PCl_5}{208.24\ g\ PCl_5} = 0.013734\ mol\ PCl_5$$

$$[PCl_5]_{initial} = \frac{mol}{L} = \frac{0.013734\ mol}{0.7000\ L} = 0.01962\ M$$

Predict the equilibrium concentration of PCl_5 in the reaction described below (for which Kc = 0.04200 at the reaction temperature) by constructing an ICE table, writing the equilibrium constant expression, and solving for the equilibrium concentration. Complete Parts 1-3 before submitting your answer.

$$PCl_5(g) \rightleftharpoons PCl_3(g) + Cl_2(g)$$

1 | 2 | 3 | NEXT

An initial quantity of 2.860 g of PCl_5 decomposes in a 700.0 mL closed container. Fill in the ICE table with the appropriate value for each involved species to determine the concentrations of all reactants and products.

	$PCl_5(g)$	$\rightleftharpoons$	$PCl_3(g)$	+	$Cl_2(g)$
Initial (M)	0.01962		0		0
Change (M)	$-x$		$+x$		$+x$
Equilibrium (M)	$0.01962-x$		x		x

$$K_c = Q \Rightarrow 0.042 = \frac{(x)(x)}{0.01962-x}$$

Can we approximate? K_c is _____)

So