Practice: U1A L4 Practice The Distributive Property Name: _____ HR: _____

1. $2(3x+4)=34$

Dist.

$6x+8=34$

$-8 \quad -8$ — POE

$\frac{6x}{6}=\frac{26}{6}$ ÷ POE

$x=\frac{13}{3}$

2. $-3(2x-1)=-15$

$-6x+3=-15$

$-3 \quad -3$ — POE

$\frac{-6x}{-6}=\frac{-18}{-6}$ ÷ POE

$x=3$

3. $\frac{1}{2}(6x+8)=20$

$3x+4=20$

$-4 \quad -4$

$\frac{3x}{3}=\frac{16}{3}$

$x=\frac{16}{3}$

$\frac{12}{3}x \quad \frac{2}{3}\cdot 3=2$

4. $48=3(4x-5)$

Dist

$48=12x-15$

$+15 \quad +15$ + POE

$\frac{63}{12}=\frac{12x}{12}$ ÷ POE

$\frac{21}{4}=x$ Symm

$x=\frac{21}{4}$

5. $18=-2(5x+6)$

Dist

$18=-10x-12$

$+12 \quad +12$ + POE

$\frac{30}{10}=\frac{-10x}{-10}$ ÷ POE

$3=x$ Symm

$x=3$

6. $42=\frac{2}{3}(6x+3)$

Dist.

$42=4x+2$

$-2 \quad -2$ — POE

$\frac{40}{4}=\frac{4x}{4}$ ÷ POE

$10=x$ Symm

$x=10$

7. $30=-5(x-2)$

Dist

$30=-5x+10$

$-10 \quad -10$ — POE

$\frac{20}{-5}=\frac{-5x}{-5}$ ÷ POE

$-4=x$ Symm

$x=-4$

8. $2(5x+4)+6x=64$

Dist

$10x+8+6x=64$ Simplify

$16x+8=64$

$-8 \quad -8$ — POE

$\frac{16x}{16}=\frac{56}{16}\div\frac{8}{8}$ ÷ POE

$x=\frac{7}{2}$

9. $-3(2x-7)=6x+9$

Dist

$-6x+21=6x+9$

$+6x \quad +6x$ + POE

$21=12x+9$

$-9 \quad -9$ — POE

$\frac{12}{12}=\frac{12x}{12}$ ÷ POE

$1=x$ Symm

$x=1$

10. $\frac{1}{2}(6x+8)+x=22$

Dist.

$3x+4+x=22$ Simp.

$4x+4=22$

$-4 \quad -4$ −POE

$\frac{4x}{4}=\frac{18}{4}$ ÷POE

$x=\frac{9}{2}$ Simp.

$-\frac{2}{3}\cdot 9=\frac{-18}{3}=-6$

$\frac{2}{3}\cdot 6=\frac{12}{3}=4$

11. $4(3x+1)+2x=62$

Dist

$12x+4+2x=62$

Simp

$14x+4=62$

$-4 \quad -4$ −POE

$\frac{14x}{14}=\frac{58}{14}$ ÷POE

$x=\frac{29}{7}$ Simp.

12. $7x-2(3x+4)=8$

$-2\cdot 3x \quad -2\cdot 4$

Dist

$7x-6x-8=8$ Simp.

$x-8=8$

$+8 \quad +8$ +POE

$x=16$

13. $-\frac{2}{3}(9x-6)=4x-10$

$-6x+4=4x-10$

$+6x \quad +6x$ +POE

$4=10x-10$

$+10 \quad +10$ +POE

$\frac{14}{10}=\frac{10x}{10}$ ÷POE

$\frac{7}{5}=x$ Simp.

$x=\frac{7}{5}$ Symm.

14. $5x=2(3x+7)-4$

Dist.

$5x=6x+14-4$

$5x=6x+10$ Comb like terms

$-6x \quad -6x$ ÷POE

$-1x=10$

$-1 \quad -1$ ÷POE

$x=-10$

15. $12=3(2x-1)+6x$

Dist

$12=6x-3+6x$

$12=12x-3$ comb like terms

$+3 \quad +3$ +POE

$\frac{15}{12}=\frac{12x}{12}$ ÷POE

$\frac{5}{4}=x$ Simp.

$x=\frac{5}{4}$ Symm.

16. $6(2x+3)=4x+36$

Dist.

$12x+18=4x+36$

$-4x \quad -4x$ −POE

$8x+18=36$

$-18 \quad -18$ −POE

$\frac{8x}{8}=\frac{18}{8}$ ÷POE

$x=\frac{9}{4}$

17. $2(3x+2)=3(2x+4)$

Dist

$6x+4=6x+12$

$-6x \quad -6x$ ← −POE

$4=12$ ← False

No Solutions

18. $7(2x+3)+4x=100$

Dist

$14x+21+4x=100$

$18x+21=100$ comb. like terms

$-21 \quad -21$ ← −POE

$\frac{18x}{18}=\frac{79}{18}$ ÷POE

$x=\frac{79}{18}$