Using Properties of Parallel Lines cut by a Transversal:
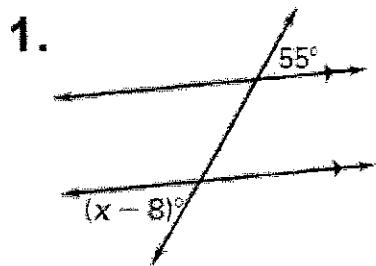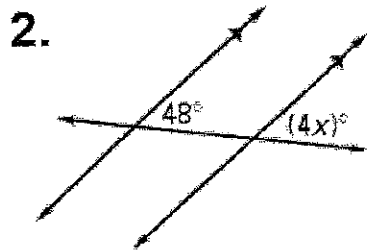Use properties of parallel lines to find the value of x.
Also, state your reasoning.
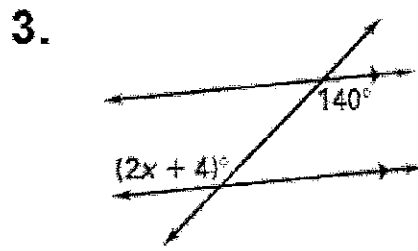
1.

$$x - 8 = 55$$
$$+8 \quad +8$$
$$x = \boxed{63}$$

x = __63__ because
Alt. Ext. ∠'s
are congruent

2.

$$\frac{48}{4} = \frac{4x}{4}$$
$$\boxed{12} = x$$

x = __12__ because
corresponding ∠'s
are congruent

3.

$$2x + 4 = 140$$
$$-4 \qquad -4$$
$$\frac{2x}{2} = \frac{136}{2}$$
$$x = \boxed{68}$$

x = __68__ because
alt int. ∠'s
are congruent

You Practice:

4.
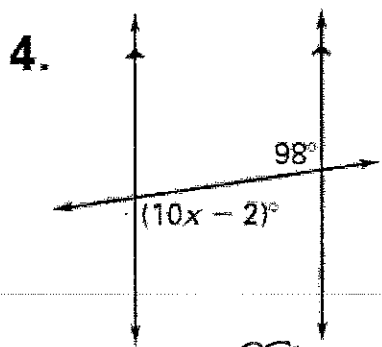
$$10x - 2 = 98$$
$$+2 \quad +2$$
$$\frac{10x}{10} = \frac{100}{10}$$
$$x = \boxed{10}$$

x = __10__ because
alt.int ∠'s
are congruent

5.
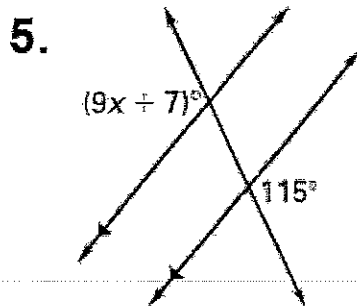
$$9x + 7 = 115$$
$$-7 \quad -7$$
$$\frac{9x}{9} = \frac{108}{9}$$
$$x = \boxed{12}$$

x = __12__ because
alt. ext. ∠'s
are congruent

6.
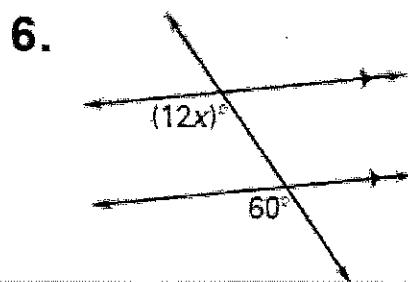
$$\frac{12x}{12} = \frac{60}{12}$$
$$x = \boxed{5}$$

x = __5__ because
corresponding
∠'s are congruent

7.

$(14x + 7)°$

$103°$
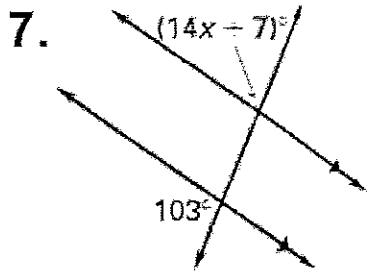
$14X + 7 + 103 = 180$

$14X + 110 = 180$

$ - 110 -110$

$\dfrac{14X}{14} = \dfrac{70}{14}$

$X = \boxed{5}$

x = __5__ because
__same side ext ∠'s__
__are supplementary__

8.

$135°$

$135°$ $(4x - 3)°$
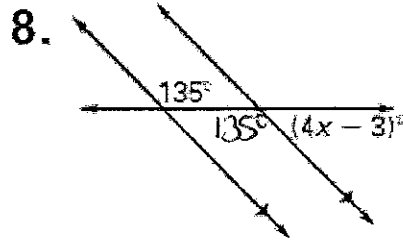
$4X - 3 + 135 = 180$

$4X + 132 = 180$

$ - 132 -132$

$\dfrac{4X}{4} = \dfrac{48}{4}$

$X = \boxed{12}$

x = __12__ because
__linear pair of__
__an alt. int ∠.__
__supplementary__

9.

$53°$

$53°$

$(5x + 2)°$

$5X + 2 + 53 = 180$

$5X + 55 = 180$

$ - 55 -55$

$\dfrac{5X}{5} = \dfrac{125}{5}$

$X = \boxed{25}$
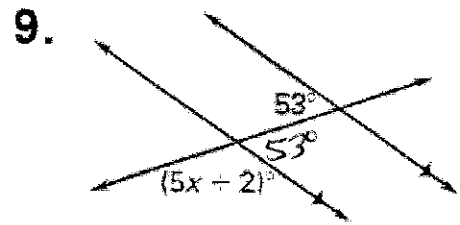
x = __25__ because
__linear pair of__
__an alt. int ∠.__
__supplementary__

TICKET OUT:

1.
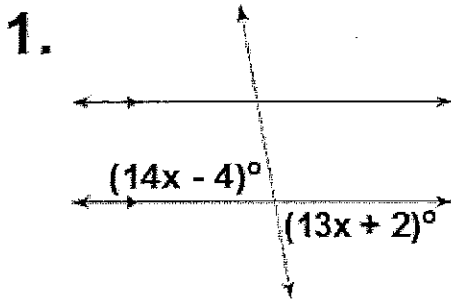
$(14x - 4)°$

$(13x + 2)°$

x = __6__ because
__vertical angles all ≅__

$14X - 4 = 13X + 2$

$-13X -13X$

$X - 4 = 2$

$ + 4 +4$

$X = \boxed{6}$

2.
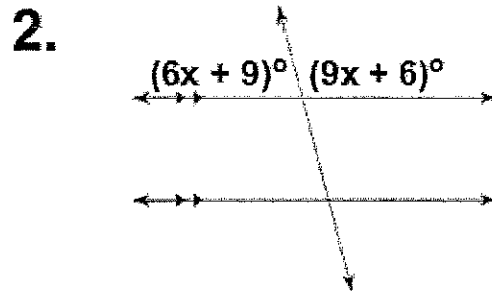
$(6x + 9)°$ $(9x + 6)°$

x = __11__ because
__linear pairs are__
__supplementary__

$6X + 9 + 9X + 6 = 180$

$15X + 15 = 180$

$ -15 -15$

$\dfrac{15X}{15} = \dfrac{165}{15}$

$X = \boxed{11}$