(7) $x = 60$
$y = 61$

(8) $14x + 4x = 180$
$18x = 180$
$x = 10$
$2y = 90$
$y = 45$

(9) $x = 60$
$3y + 6 = 60$
$y = 18$

(14) $x = 56$
$y = 100$
$4z = 100$
$z = 25$

(15) $x = 70$
$5y + 10 = 70$
$y = 12$
$z = 38$

(16) $3x = 90$
$x = 30$
$8y + 4 = 68$
$y = 8$
$z = 11$

(10) $x = 70$
$y = 60$

(11) $3x = 42$
$x = 14$
$6y - 6 = 48$
$y = 9$

(12) $x = 55$
$y = 75$

(17) a) $m\angle DAB = 64$
$m\angle KAB = 32$
$m\angle DKA = 32$

b) Not enough

(18) $120 + 2x + y = 180$
$2x - y + 140 = 180$
$x = 25$
$y = 10$

(19) $4x - 2y + 70 = 180$
$4x + 2y + 50 = 180$
$x = 30$
$y = 5$

Section 3-2 HW PROOFS

(20) ① $k \parallel l$ → ② $\angle 5 \cong \angle 7$, ③ $\angle 2 \cong \angle 5$ } → ④ $\angle 2 \cong \angle 7$

① Given
② 2 || lines trans. → corresp. $\angle$s $\cong$
③ Vertical $\angle$s $\cong$
④ Transitive Property

(21) Multiple ways to do this proof.

① $k \parallel l$ → ② $\angle 1 \cong \angle 8$ → ③ $m\angle 1 = m\angle 8$

④ $\angle 7$ & $\angle 8$ linear pair → ⑤ $\angle 7$ supp $\angle 8$ → ⑥ $m\angle 7 + m\angle 8 = 180$ } → ⑦ $m\angle 1 + m\angle 7 = 180$ → ⑧ $\angle 1$ supp $\angle 7$

① Given
② 2 || lines transversal, ∴ alt. int. $\angle$s $\cong$
③ Def $\cong$ $\angle$s
④ Def linear pair
⑤ Linear pair postulate
⑥ Supplem $\angle$s total 180

(24) ① $m\angle 4 = m\angle 5$ → ② $\angle 4 \cong \angle 5$, ③ $\overline{AS} \parallel \overline{BT}$ → ④ $\angle 4 \cong \angle 1$ } → ⑤ $\angle 1 \cong \angle 5$, ⑥ $\angle 5 \cong \angle 2$ } → ⑦ $\angle 1 \cong \angle 2$ → ⑧ $\overrightarrow{SA}$ bisects $\angle BSR$

① Given
② Def. of $\cong$ $\angle$s
③ Given
④ 2 || lines trans., ∴ corresp. $\angle$s $\cong$.
⑤ Transitive Prop
⑥ 2 || lines trans, ∴ alt. int. $\angle$s $\cong$
⑦ Transitive Prop
⑧ Def of $\angle$ bisector

(#25) $m\angle 1 = 60$