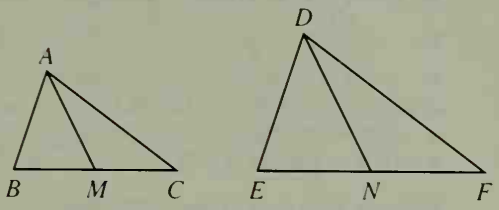
2. $\triangle DEF \sim \triangle GHI$ (SSS $\sim$) 3. $\angle E \cong \angle H$ (Corr. $\measuredangle$ of $\sim$ $\triangle$ are $\cong$.) **13.** 1. $\frac{VW}{VX} = \frac{VZ}{VY}$ (Given) 2. $\angle V \cong \angle V$ (Reflex.) 3. $\triangle VWZ \sim \triangle VXY$ (SAS $\sim$) 4. $\angle 1 \cong \angle 2$ (Corr. $\measuredangle$ of $\sim$ $\triangle$ are $\cong$.) 5. $\overline{WZ} \parallel \overline{XY}$ (If corr. $\measuredangle \cong$, lines $\parallel$.) **15.** 1. $\frac{JL}{NL} = \frac{KL}{ML}$ (Given) 2. $\angle MLN \cong \angle KLJ$ (Vert. $\measuredangle \cong$.) 3. $\triangle MLN \sim \triangle KLJ$ (SAS $\sim$) 4. $\angle J \cong \angle N$ (Corr. $\measuredangle$ of $\sim$ $\triangle$ are $\cong$.)

17. Given: $\triangle ABC \sim \triangle DEF$; $\overline{AM}$ and $\overline{DN}$ are medians.

Prove: $\frac{AM}{DN} = \frac{AB}{DE}$



Key steps of proof: 1. $BM = \frac{1}{2}BC$; $EN = \frac{1}{2}EF$ (Midpt. Thm.) 2. $\frac{BC}{EF} = \frac{AB}{DE}$ (Corr. sides of $\sim$ $\triangle$ are in prop.) 3. $\frac{BM}{EN} = \frac{AB}{DE}$ (Subst.) 4. $\triangle ABM \sim \triangle DEN$ (SAS $\sim$) 5. $\frac{AM}{DN} = \frac{AB}{DE}$ (Corr. sides of $\sim$ $\triangle$ are in prop.)

Mixed Review Exercises, Page 268

1. a. $\overline{GC}$; $\overline{EF}$ **b.** 18 **c.** 3 **d.** 90 **2. a.** Midpt., $\overline{RV}$ **b.** 2 **c.** 4

Written Exercises, Pages 272–273

1. a. No **b.** Yes **c.** Yes **d.** No **e.** Yes **f.** Yes **3.** 7.5 **5.** 26 **7.** 18 **9.** 14.5 **11.** 4 **13.** $AN = 10$ **15.** $RT = 8$; $AN = 18$; $NP = 12$; $TP = 25$ **17.** $AR = 8$; $NP = 6$; $AP = 12$ **21.** 22.5 **23.** 78 **25.** 0.5

Self-Test 2, Page 274

1. SSS $\sim$ **2.** AA $\sim$ **3.** SAS $\sim$ **4. a.** $\triangle EDC$ **b.** ED; EC; DC **c.** 10; x; 14 **d.** 10; y; 18 **5.** r **6.** p **7.** h **8.** a **9.** 12 **10.** 14 **11.** $6\frac{2}{3}$

Extra, Page 276

1. c **3.** b **5.** d

Chapter Review, Pages 277–278

1. 3:5 **3.** $\frac{2y}{3x}$ **5.** No **7.** Yes **9.** $\angle J$ **11. a.** 12 **b.** 50 **13. a.** $\triangle UVH$ **b.** AA $\sim$ **15.** UH; $\frac{RT}{UV}$ **17.** $\triangle NCD \sim \triangle NAB$; AA $\sim$ **19.** No **21.** 2 **23.** 14.4

Algebra Review, Page 280

1. 6 **3.** $2\sqrt{6}$ **5.** $10\sqrt{3}$ **7.** $\frac{\sqrt{15}}{3}$ **9.** 1 **11.** 13 **13.** 12 **15.** 162 **17.** $12\sqrt{3}$ **19.** $10\sqrt{2}$ **21.** 5 **23.** 12 **25.** $\sqrt{65}$ **27.** $2\sqrt{2}$ **29.** 7

Cumulative Review, Pages 281–283

True-False Exercises **1.** F **3.** F **5.** T **7.** F **9.** F **11.** F **Multiple-Choice Exercises** **1.** d **3.** d **5.** c **Always-Sometimes-Never Exercises** **1.** S **3.** S **5.** N **7.** A **9.** S **11.** A **13.** A **15.** S **Completion Exercises** **1.** 120 **3.** obtuse **5.** 108 **7.** rect. **9.** 36 **Algebraic Exercises** **1.** 6 **3.** 84 **5.** 20 **7.** 7 **9.** 6 **11.** 15 **13.** 16 cm, 20 cm, 28 cm **15.** $x = 6$, $y = 3.5$ **Proof Exercises** **1.** 1. $\overline{SU} \cong \overline{SV}$; $\angle 1 \cong \angle 2$ (Given) 2. $\overline{QS} \cong \overline{QS}$ (Reflex.) 3. $\triangle QUS \cong \triangle QVS$ (SAS) 4. $\overline{UQ} \cong \overline{VQ}$ (CPCT) **3.** Key steps of proof: 1. $\overline{QR} \cong \overline{QT}$; $\angle R \cong \angle T$; $\overline{RU} \cong \overline{TV}$ (CPCT) 2. $\overline{RS} \cong \overline{TS}$ (Seg. Add. Post and Add. Prop. =) 3. $\triangle QRS \cong \triangle QTS$ (SAS) **5.** 1. $\overline{EF} \parallel \overline{JK}$; $\overline{JK} \parallel \overline{HI}$ (Given) 2. $\overline{EF} \parallel \overline{HI}$ (Thm. 3-10) 3. $\angle 2 \cong \angle 3$; $\angle F \cong \angle H$ (If lines $\parallel$, alt. int. $\measuredangle \cong$.) 4. $\triangle EFG \sim \triangle IHG$ (AA $\sim$)