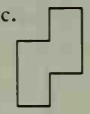
inf. many planes that contain b; plane symm. about the single plane that contains a and is $\perp$ to b; inf. many rot. symmetries about b; 180° rot. symm. about the inf. many lines $\perp$ to b and containing the int. of the axes.

21. **a.** non-isos. trap. **b.** isos. trap. **c.** not poss. **23.** **a.** reg. octagon **b.**  **c.** 

25. **a.** at the midpts. of the sides **b.** translational

Self-Test 2, Page 615

1. A **2.** A **3.** B **4.** P **5.** y-axis **6.** No **7.** P **8.** T **9.** translation **10.** **a.** $D_{O,\frac{1}{3}}$ **b.** $\mathcal{R}_{O,70}$ **c.** R_y **d.** $S^{-1}:(x, y) \rightarrow (x - 2, y + 3)$

Extra, Pages 616–617

1. Let t be the $\perp$ bis. of the base.

$\circ$	I	R_t
I	I	R_t
R_t	R_t	I

3.

$\circ$	I	$\mathcal{R}_{O,120}$	$\mathcal{R}_{O,240}$
I	I	$\mathcal{R}_{O,120}$	$\mathcal{R}_{O,240}$
$\mathcal{R}_{O,120}$	$\mathcal{R}_{O,120}$	$\mathcal{R}_{O,240}$	I
$\mathcal{R}_{O,240}$	$\mathcal{R}_{O,240}$	I	$\mathcal{R}_{O,120}$

5. **a.** 2 **b.** 4

9. **a.** No; there is no identity. **b.** Yes; the rot. symmetries **c.** I, H_O

Chapter Review, Page 619

1. $\cong$ **3.** **a.** (6, 1), $\left(\frac{3}{2}, 5\right)$ **b.** No **5.** $y = -2x + 1$ **7.** (12, 2) **9.** a, c **11.** (1, 3) **13.** $(x + 1, y - 6)$ **15.** l **17.** No **19.** Yes

Preparing for College Entrance Exams, Page 621

1. B **2.** A **3.** E **4.** C **5.** C **6.** E **7.** A **8.** E **9.** B **10.** D

Cumulative Review, Pages 622–625

True-False Exercises **1.** T **3.** T **5.** F **7.** F **9.** F **11.** T **13.** F **15.** T **17.** T **19.** F

Multiple-Choice Exercises **1.** d **3.** b **5.** d **7.** c **9.** c **11.** b

Completion Exercises **1.** Add. Prop. = **3.** 124 **5.** 33 **7.** $-\frac{3}{2}$ **9.** $(-5, 2)$ **11.** 22.5 **13.** $\frac{15}{17}$ **15.** $27\sqrt{7}$ **17.** 324π, 135π **19.** $(4, -2)$ **21.** 1:7

Always-Sometimes-Never Exercises **1.** N **3.** S **5.** A **7.** N **9.** S **11.** A **13.** N **15.** A **17.** S

Construction Exercises **1.** Const. 3 **3.** Const. 11 **5.** Const. $l \perp m$ at A; on m mark off $AB = y$; from B, locate D on l such that $BD = x$; const. $n \perp l$ at D; on n mark off $DC = y$; draw $\overline{BC}$. **7.** On a line, mark off $AB = x$, $BC = x$, $CD = x$. Use Const. 14 to const. the geom. mean of AD and y.

Proof Exercises **1.** Key steps of proof: 1. $\triangle OQP \sim \triangle OSR$ (AA~) 2. $\frac{PO}{RO} = \frac{PQ}{RS}$ (Corr. sides of ~ $\triangle$ are in prop.) **3.** Key steps of proof: 1. $OS = OR$; $OP = OQ$ (If 2 $\measuredangle$ of a $\triangle$ are $\cong$, sides opp. those $\measuredangle$ are $\cong$.) 2. $PR = QS$ (Add. Prop. =, Seg. Add. Post.) 3. $\triangle PSR \cong \triangle QRS$ (SAS) **5.** Plan for proof: Let the coords. be $R(-2a, 0)$, $S(2a, 0)$, and $T(0, 2b)$. Midpts. of the segs. are $M(-a, b)$, $N(0, 0)$, and $P(a, b)$. Use the Dist. Form. to show that $NM = NP = \sqrt{a^2 + b^2}$.

Logic

Exercises, Pages 645–646

1. I like the city and you like the country. **3.** You don't like the country. **5.** I like the city or you don't like the country. **7.** I don't like the city or you don't like the country. **9.** It is not true that "I like the city or you like the country." **11.** $p \vee q$ **13.** $\sim(p \vee q)$ **15.** $\sim(p \wedge q)$ **17.** Yes

19.

p	q	$\sim q$	$p \vee \sim q$
T	T	F	T
T	F	T	T
F	T	F	F
F	F	T	T