

Test 5

1. A: parallel
2. B: perpendicular
3. E: perpendicular
4. B: bisector
5. A: $AF = FB$
6. D: \overline{DA} and \overline{GF}
7. C: I, II and IV are true
8. B: $90^\circ \div 2 = 45^\circ$
9. B: $90^\circ \div 2 = 45^\circ$
10. C: \perp
11. A: \parallel
12. A: This is the converse of the original statement.
13. C: I and III:
straightedge and compa
14. D: at the vertex
15. C: perpendicular lines are not parallel

Test 6

1. E: supplementary
2. C: congruent
3. B: $90^\circ - 35^\circ = 55^\circ$
4. C: $180^\circ - 40^\circ = 140^\circ$
5. E: $20^\circ + 70^\circ = 90^\circ$, so they are complementary
6. B: $\angle 2$ and $\angle 5$
7. A: 90° , because line $SV \perp$ line WT
8. E: can't tell from information given
9. D: $\angle 1$
10. A: 180° They combine to form a straight angle.
11. C: vertical angles
12. D: We don't know the measures of $\angle 4$ and $\angle 5$, so sum cannot be determined.
13. A: \overleftrightarrow{FC} is a straight line, so $\angle 1$ would be included to make 180° .

14. D: The measures of these angles are not given: looking the same is not sufficient.
15. A: $90^\circ + 90^\circ < 185^\circ$

Test 7

1. D: $\angle 7$
2. C: $180^\circ - 80^\circ = 100^\circ$
3. E: Alternate interior angles are congruent.
4. B: $\angle 2$
5. D: alternate exterior angles
6. E: \angle 's 1, 2, 4, 5, 6, 7 and 8
7. C: 65° ; vertical angles
8. D: vertical angles
9. E: supplementary angles
10. E: can't tell: rules for alternate exterior angles apply only for parallel lines
11. C: If the sum of two angles is 180° , they are supplementary.
12. A: parallel lines
13. D: 45°
14. D: 8: four for each intersection
15. B: congruent

Test 8

1. E: I, II and V
2. C: All squares have 4 right angles and opposite sides that are congruent, so they are rectangles.
3. D: Some trapezoids have 1 right angle, but they need not have any.
4. E: length of each side
5. A: quadrilateral
6. D: 180°
7. D: square
8. B: rhombus

9. A: 360°
10. B: trapezoid
11. A: $5+7+9+3 = 24$ in
12. C: $9+10+15 = 34$ m
13. D: unlabeled horizontal side
has a length of $8.5 - 4 = 4.5$ in
 $P = 4+3+4.5+2+8.5+5 = 27$ in
14. B: $P = 4(11) = 44$ cm
15. E: $P = 2(25) + 2(15) = 50 + 30 = 80$ ft

Test 9

1. B: height
2. E: perpendicular to the base
3. B: divide by two
4. D: find the average base
5. A: 90° , because they are perpendicular
6. C: 100 ft^2 : area is always in square units
7. E: not enough information; need to know both bases
8. D: $A = \frac{1}{2}bh = \frac{1}{2}(8)(4) = 16 \text{ m}^2$
9. C: $A = bh = (15)(3) = 45 \text{ units}^2$
10. E: not enough information; perpendicular height is needed
11. A: $A = \frac{5+9}{2}(3.5) = 24.5 \text{ in}^2$
12. A: $A = \frac{1}{2}bh = \frac{1}{2}(15)(6) = 45 \text{ m}^2$
13. C: $A = (4)(3) + (2)(8.5) = 12 + 17 = 29 \text{ ft}^2$
14. E: $A = bh = (11)(10) = 110 \text{ cm}^2$
all 4 sides of a rhombus are congruent
15. A: $A = bh = (25)(15) = 375 \text{ ft}^2$

Test 10

1. D: obtuse
2. C: isosceles
3. B: acute
4. C: If it has a 90° angle, the remaining two angles must add to 90° .
 $90^\circ - 28^\circ = 62^\circ$
5. B: scalene
6. E: impossible to draw
 $61^\circ + 62^\circ + 61^\circ = 184^\circ$
7. B: acute and equilateral
8. C: 6 is the smallest number among the choices which, when added to 7 yields a result greater than 12.
9. E: impossible to draw
 $2+2 = 4$; $4 < 5$
10. A: isosceles and right
11. C: equilateral, because the third angle must also be 60°
12. D: right $180^\circ - (74^\circ + 16^\circ) = 180^\circ - 90^\circ = 90^\circ$
13. A: isosceles and acute
14. B: equilateral
15. A: $34^\circ + 73^\circ + 73^\circ = 180^\circ$