LESSON 84 Review: 1st Quarter

Let's review. Be sure to check the corresponding lesson(s) if you get any problem(s) wrong.

(Lessons 6 & 7) Solve.
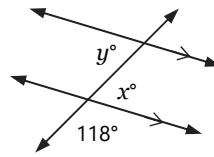
1. Point M bisects $\overline{AB}$. Draw a diagram that fits this description.

2. Three points are collinear. Determine if this statement is *always*, *sometimes*, or *never* true.

3. Given line l and point P not on l, how many lines parallel to l through P can be drawn?

4. Points D, E, and F are collinear and E is between D and F. Find DE if $DE = x$, $EF = 2x$, and $DF = 18$.
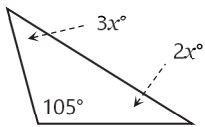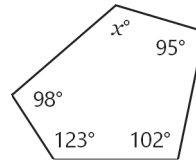
(Lessons 8 & 9) Find the value of x.

5.

100°

$(x + 35)°$

6.

$y°$

$x°$

118°
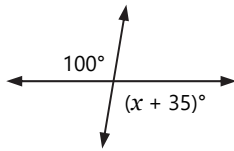
(Lessons 11 & 13) Find the value of x.

7.

$3x°$

$2x°$
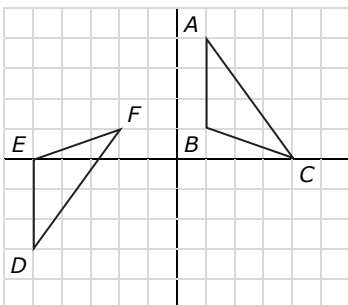
105°

8.

$x°$

95°

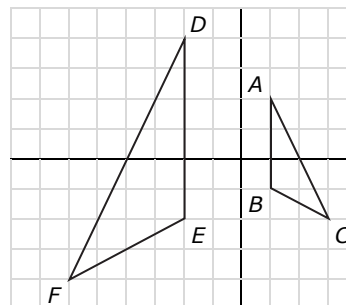98°

123°   102°

(Lessons 15 & 20) Solve.

9. What are the number of lines of symmetry and the angle of rotational symmetry of a square?

10. What is the image of $P(2, -6)$ after $r_{y=x} \circ T_{-3,6}$ (a reflection over $y = x$ after a translation of 3 units left and 6 units up)?

(Lessons 20 & 21) Describe a sequence of transformations that maps $\triangle ABC$ to $\triangle DEF$.
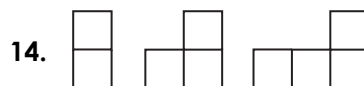
11.

12.

(Lesson 23) Describe the pattern in each sequence, then find the next two items.

13. $\dfrac{1}{2}, \dfrac{1}{4}, \dfrac{1}{8}, \dfrac{1}{16} \dots$

14.

(Lesson 27) Write an indirect proof.
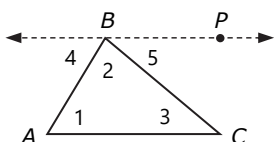
15. <u>Given</u>: $2x + 7 < 15$
<u>Prove</u>: $x < 4$

16. <u>Given</u>: ∠1 and ∠2 are supplementary.
<u>Prove</u>: ∠1 and ∠2 are not both obtuse.

(Lesson 32) Complete the proof of the Triangle Sum Theorem [32.1].
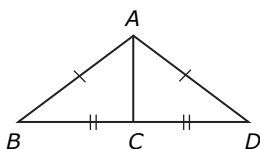
17. <u>Given</u>: $\triangle ABC$
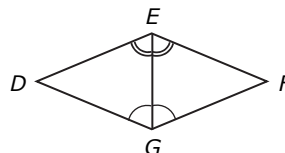<u>Prove</u>: $m\angle 1 + m\angle 2 + m\angle 3 = 180°$

STATEMENTS	REASONS
1. Draw $\overleftrightarrow{BP}$ parallel to $\overline{AC}$.	1. Construction
2. ∠4 ≅ ∠1, ∠5 ≅ ∠3	2.
3. $m\angle 4 = m\angle 1$, $m\angle 5 = m\angle 3$	3.
4. $m\angle 4 + m\angle 2 + m\angle 5 = 180°$	4. Angle Addition Post.
5. $m\angle 1 + m\angle 2 + m\angle 3 = 180°$	5.

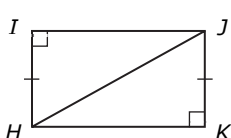(Lessons 36 ~ 38) Explain why the triangles are congruent and write a congruence statement.
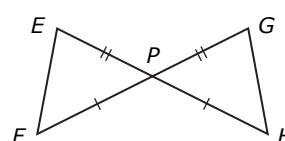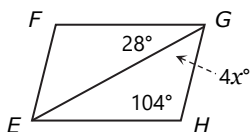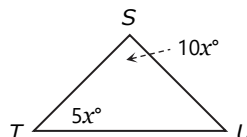
18.

19.

20.

21.

(Lessons 35 & 40) Use the given information to find the values of the variables.

22. $\triangle EFG \cong \triangle GHE$

23. $\overline{ST} \cong \overline{SU}$

(HONORS) Solve.

24. Line $y = x$ is reflected over the y-axis. Write an equation of the image in slope-intercept form.

25. Line l passes through $(0, 2)$ and $(2, 0)$. Line q is the image of line l after a reflection over the x-axis. What is the intersection of the two lines?