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$\qquad$

## 4 Chapter 4 Test, Form 2A

$\qquad$

Write the letter for the correct answer in the blank at the right of each question.

1. What is the length of the sides of this equilateral triangle?
A 42
C 15
B 30
D 12

2. C
3. How would $\triangle A B C$ with vertices $A(4,1), B(2,-1)$, and $C(-2,-1)$ be classified based on the length of its sides?
F equilateral
G isosceles
H scalene
J right
4. H

Use the figure for Questions 3 and 4.

3. What is $m \angle 1$ ?
A 40
B 50
C 70
D 90
3. A
4. What is $m \angle 3$ ?

F 40
G 70
H 90
J 110
4. J
5. If $\triangle D J L \cong \triangle E G S$, which segment in $\triangle E G S$ corresponds to $\overline{D L}$ ?
A $\overline{E G}$
B $\overline{E S}$
C $\overline{G S}$
D $\overline{G E}$
5. B
6. Which triangles are congruent in the figure?

F $\triangle K L J \cong \triangle M N L$
G $\triangle J L K \cong \triangle N L M$


H $\triangle J K L \cong \triangle L M N$
J $\triangle J K L \cong \triangle M N L$
6. J
7. Quadrilateral $M N Q P$ is made of two congruent triangles.
$\overline{N P}$ bisects $\angle N$ and $\angle P$. In the quadrilateral, $m \angle N=50$ and $m \angle P=100$. What is the measure of $\angle M$ ?
A 25
C 60
B 50
D 105

7. $\quad$ D
8. The coordinates of the vertices of $\triangle C D E$ are $C(-3,1), D(-1,4)$, and $E(-6,4)$.

A transformation applied to $\triangle C D E$ creates a congruent triangle $\triangle S Q R$. The new coordinates of two vertices are $Q(-1,6)$ and $R(-6,6)$. What are the coordinates of $S$ ?
F $(-3,3)$
G $(1,3)$
H $(-1,1)$
J $(-1,3)$
8. $F$
$\qquad$
$\qquad$
$\qquad$

## 4 Chapter 4 Test, Form 2A (continued)

9. If $\triangle A B C$ is isosceles with vertex angle $\angle \mathrm{B}$, and $\overline{A E} \cong \overline{F C}$, which theorem or postulate can be used to prove $\triangle A E B \cong \triangle C F B$ ?
A SSS
C ASA
B SAS
D AAS

10. B

## Use the proof for Questions 10 and 11.

Given: $\frac{\overline{D A}}{\overline{D A} \cong \overline{Y N}}$
Prove: $\angle N D Y \cong \angle D N A$


Proof:

| Statements | Reasons |
| :--- | :--- |
| 1. $\overline{D A} \\| \overline{Y N}$ | 1. Given |
| 2. $\angle A D N \cong \angle Y N D$ | 2. Alt. int. $\llcorner$ s are $\cong$. |
| 3. $\overline{D A} \cong \overline{Y N}$ | 3. Given |
| 4. $\overline{D N} \cong \overline{D N}$ | 4. Reflexive Property |
| 5. $\triangle N D Y \cong \triangle D N A$ | 5. (Question 10) |
| 6. $\angle N D Y \cong \angle D N A$ | 6. $\underline{(\text { Question } 11)}$ |

10. What is the reason for statement 5 ?
F ASA
H SAS
G AAS
J SSS
11. H
12. What is the reason for statement 6 ?
A Alt. int. $\&$ are $\cong$.
C Corr. angles are $\cong$.
B CPCTC
D Isosceles Triangle Theorem
13. B
14. What is the classification of a triangle with vertices $A(3,3), B(6,-2), C(0,-2)$ by the length of its sides?
$\mathbf{F}$ isosceles
H equilateral
G scalene
J right
15. $F$
16. What are the missing coordinates of the triangle?
A $(-2 b, 0)$
C $(-c, 0)$
B $(0,2 b)$
D $(0,-c)$


Bonus Name the coordinates of points $A$ and $C$ in isosceles right $\triangle A B C$ if point $C$ is in the second quadrant.


B: $A(0,0), C(-a, 0)$

