Name: _____

G.SRT.D.11: Law of Cosines 1

1   In $\triangle FGH$, $f = 6$, $g = 9$, and m$\angle H = 57$. Which statement can be used to determine the numerical value of h?
1) $h^2 = 6^2 + 9^2 - 2(9)(h)\cos 57°$
2) $h^2 = 6^2 + 9^2 - 2(6)(9)\cos 57°$
3) $6^2 = 9^2 + h^2 - 2(9)(h)\cos 57°$
4) $9^2 = 6^2 + h^2 - 2(6)(h)\cos 57°$

2   In $\triangle ABC$, if $a = 4$, $b = 3$, and $\cos C = -\dfrac{1}{2}$. What is the length of C?
1) 7 2) $\sqrt{13}$ 3) $\sqrt{37}$ 4) $\sqrt{19}$

3   In $\triangle CAT$, $a = 4$, $c = 5$, and $\cos T = \dfrac{1}{8}$. What is the length of t?

4   In $\triangle ABC$, $a = 8$, $b = 9$, and $\cos C = \dfrac{2}{3}$. Find c.

5   In $\triangle ABC$, $a = 2$, $c = 6$, and $\cos B = \dfrac{1}{6}$. Find b.

6   In $\triangle ABC$, $\cos C = -0.2$, $a = 8$, and $b = 10$. Find the length of side c.

7   In triangle ABC, $a = 2$, $b = 4$, and m$\angle C = 120$. What is the length of side c?
1) $\sqrt{7}$ 2) $2\sqrt{7}$ 3) 28 4) $4\sqrt{7}$

8   In triangle ABC, $a = 2$, $b = 4$, and m$\angle C = 60$. The length of side c is
1) $2\sqrt{3}$ 2) 2 3) $\sqrt{3}$ 4) $2\sqrt{7}$

9   In $\triangle ABC$, $a = 6$, $b = 12$, and m$\angle C = 60$. What is the length of side c to the *nearest integer*?
1) 5 2) 10 3) 11 4) 20

10   In $\triangle DEF$, if $d = \sqrt{3}$, $e = 4$, and m$\angle F = 30$, the length of f is
1) 7 2) $\sqrt{17}$ 3) $\sqrt{7}$ 4) $\sqrt{3}$

11   In $\triangle ABC$, $a = 1$, $b = 1$, and m$\angle C = 120$. The value of c is
1) 1 2) $\sqrt{2}$ 3) $\sqrt{2.5}$ 4) $\sqrt{3}$

12   In $\triangle ABC$, $a = 3$, $b = 5$, and m$\angle C = 120$. Find the value of c.

13   In triangle ABC, $a = 5$, $b = 8$, and m$\angle C = 60$. Find the length of side c.

14   In $\triangle ABC$, $a = 3$, $b = 8$, and m$\angle C = 60$. Find the length of side c.

15   In $\triangle ABC$, $a = 6$, $b = 10$, and m$\angle C = 120$. What is the length of c?

G.SRT.D.11: Law of Cosines 1
Answer Section

  1 ANS: 2   REF: 011501a2
  2 ANS: 3   REF: 089827siii
  3 ANS:
    6

    REF: 089610siii
  4 ANS:
    7

    REF: 019711siii
  5 ANS:
    6

    REF: 019913siii
  6 ANS:
    14

    REF: 069910siii
  7 ANS: 2   REF: 088429siii
  8 ANS: 1   REF: 018523siii
  9 ANS: 2   REF: 018622siii
 10 ANS: 3   REF: 089928siii
 11 ANS: 4   REF: 080025siii
 12 ANS:
    7

    REF: 068615siii
 13 ANS:
    7

    REF: 018711siii
 14 ANS:
    7

    REF: 069016siii
 15 ANS:
    14

    REF: 060112siii