EOC1 Review Unit 1

More Unit 1-2 Practice

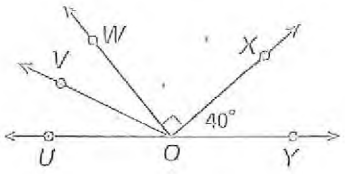
Q is between P and R. S is between Q and R, and R is between Q and T. $PT = 34$, $QR = 8$, and $PQ = SQ = SR$. What is the length of $\overline{RT}$?

Ⓐ 9 Ⓑ 10 Ⓒ 18 Ⓓ 22

C is the midpoint of $\overline{AD}$. B is the midpoint of $\overline{AC}$. $BC = 12$. What is the length of $\overline{AD}$?

Ⓕ 12 Ⓖ 24 Ⓗ 36 Ⓙ 48

$m\angle UOW = 50°$, and $\overrightarrow{OV}$ bisects $\angle UOW$. What is $m\angle VOY$?



Ⓐ 25° Ⓒ 130°

Ⓑ 65° Ⓓ 155°

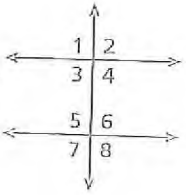
What is $m\angle UOX$?

Ⓕ 50° Ⓖ 115° Ⓗ 140° Ⓙ 165°

$\overrightarrow{BD}$ bisects $\angle ABC$, $m\angle ABC = (4x + 5)°$, and $m\angle ABD = (3x - 1)°$. What is the value of x?

Ⓐ 2.2 Ⓑ 3 Ⓒ 3.5 Ⓓ 7

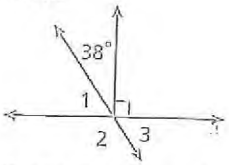
Which pair of angles in the diagram must be congruent?



Ⓐ $\angle 1$ and $\angle 5$ Ⓒ $\angle 5$ and $\angle 8$

Ⓑ $\angle 3$ and $\angle 4$ Ⓓ None of the above

What is the measure of $\angle 2$?



Ⓕ 38° Ⓗ 128°

Ⓖ 52° Ⓙ 142°

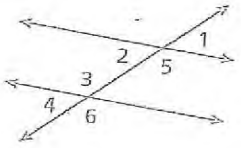
Which statement is NOT true if $\angle 2$ and $\angle 6$ are supplementary?

Ⓐ $m\angle 2 + m\angle 6 = 180°$

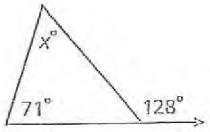
Ⓑ $\angle 2$ and $\angle 3$ are supplementary.

Ⓒ $\angle 1$ and $\angle 6$ are supplementary.

Ⓓ $m\angle 1 + m\angle 4 = 180°$



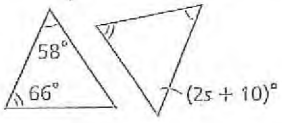
What is the value of x?



Ⓐ 19 Ⓒ 57

Ⓑ 52 Ⓓ 71

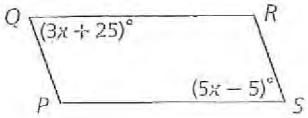
Find the value of s.



Ⓕ 23 Ⓗ 34

Ⓖ 28 Ⓙ 56

What is the value of x in $\square PQRS$?



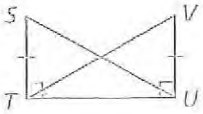
Ⓐ 15 Ⓒ 30

Ⓑ 20 Ⓓ 70

The diagonals of $\square JKLM$ intersect at Z. Which statement is true?

Ⓕ $JL = KM$ Ⓖ $JL = \frac{1}{2}KM$ Ⓗ $JL = \frac{1}{2}JZ$ Ⓙ $JL = 2JZ$

Which postulate or theorem justifies the congruence statement $\triangle STU \cong \triangle VUT$?

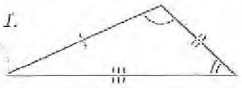


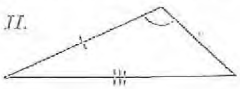
Ⓕ ASA Ⓗ HL

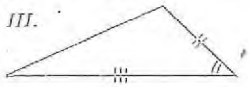
Ⓖ SSS Ⓙ SAS

EOCT Review: Unit 1

4. Which of the three triangles below can be proven congruent by SSS or SAS?

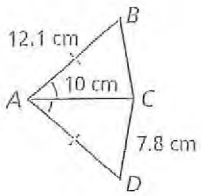
I. 

II. 

III. 

Ⓐ I and II Ⓑ II and III Ⓒ I and III Ⓓ I, II, and III

5. What is the perimeter of polygon $ABCD$?



Ⓕ 29.9 cm Ⓗ 49.8 cm

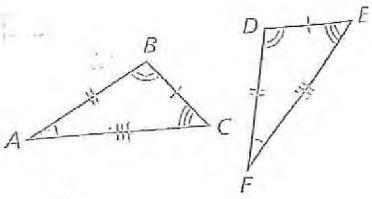
Ⓖ 39.8 cm Ⓙ 59.8 cm

6. Jacob wants to prove that $\triangle FGH \cong \triangle JKL$ using SAS. He knows that $\overline{FG} \cong \overline{JK}$ and $\overline{FH} \cong \overline{JL}$. What additional piece of information does he need?

Ⓐ $\angle F \cong \angle J$ Ⓒ $\angle H \cong \angle L$

Ⓑ $\angle G \cong \angle K$ Ⓓ $\angle F \cong \angle G$

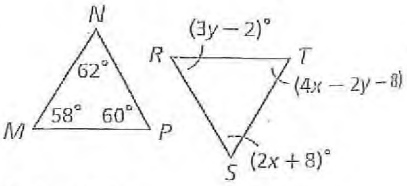
7. Which congruence statement correctly indicates that the two given triangles are congruent?



Ⓐ $\triangle ABC \cong \triangle EFD$ Ⓒ $\triangle ABC \cong \triangle DEF$

Ⓑ $\triangle ABC \cong \triangle FDE$ Ⓓ $\triangle ABC \cong \triangle FED$

8. $\triangle MNP \cong \triangle RST$. What are the values of x and y?



Ⓕ $x = 26, y = 21\frac{1}{3}$ Ⓗ $x = 25, y = 20\frac{2}{3}$

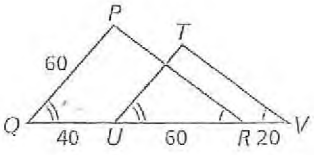
Ⓖ $x = 27, y = 20$ Ⓙ $x = 30\frac{1}{3}, y = 16\frac{2}{3}$

9. $\triangle ABC \cong \triangle XYZ$. $m\angle A = 47.1°$, and $m\angle C = 13.8°$. Find $m\angle Y$.

Ⓐ 13.8 Ⓒ 76.2

Ⓑ 42.9 Ⓓ 119.1

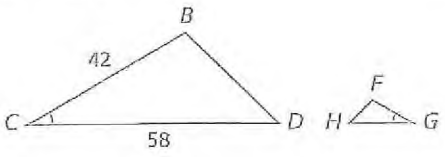
10. What is the length of $\overline{TU}$?



Ⓐ 36 Ⓒ 48

Ⓑ 40 Ⓓ 90

11. Which dimensions guarantee that $\triangle BCD \sim \triangle FGH$?



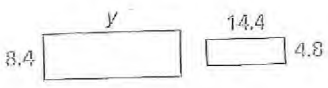
Ⓕ $FG = 11.6, GH = 8.4$

Ⓖ $FG = 12, GH = 14$

Ⓗ $FG = 11.4, GH = 11.4$

Ⓙ $FG = 10.5, GH = 14.5$

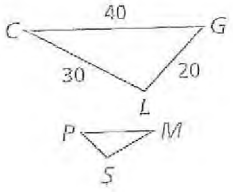
12. Which value of y makes the two rectangles similar?



Ⓐ 3 Ⓒ 25.2

Ⓑ 8.2 Ⓓ 28.8

13. $\triangle CGL \sim \triangle MPS$. The similarity ratio of $\triangle CGL$ to $\triangle MPS$ is $\frac{5}{2}$. What is the length of $\overline{PS}$?



Ⓕ 8 Ⓗ 50

Ⓖ 12 Ⓙ 75

20. For two lines and a transversal, $\angle 1$ and $\angle 2$ are same-side interior angles, $\angle 2$ and $\angle 3$ are vertical angles, and $\angle 3$ and $\angle 4$ are alternate exterior angles. Which classification best describes the angle pair $\angle 2$ and $\angle 4$?

Ⓕ Adjacent angles

Ⓖ Alternate interior angles

Ⓗ Corresponding angles

Ⓙ Vertical angles

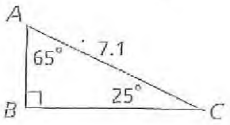
21. If $\triangle ABC \cong \triangle PQR$ and $\triangle RPQ \cong \triangle XYZ$, which of the following angles is congruent to $\angle CAB$?

Ⓐ $\angle QRP$ Ⓒ $\angle YXZ$

Ⓑ $\angle XZY$ Ⓓ $\angle XYZ$

PMT Review: Unit 2

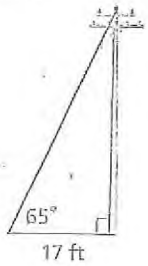
1. Which expression can be used to find AB?



Ⓐ $7.1(\sin 25°)$ Ⓒ $7.1(\sin 65°)$

Ⓑ $7.1(\cos 25°)$ Ⓓ $7.1(\tan 65°)$

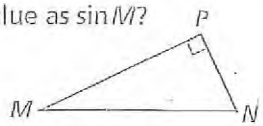
2. A steel cable supports an electrical tower as shown. The cable makes a 65° angle with the ground. The base of the cable is 17 ft from the tower. What is the height of the tower to the nearest foot?



Ⓕ 8 feet Ⓗ 36 feet

Ⓖ 15 feet Ⓙ 40 feet

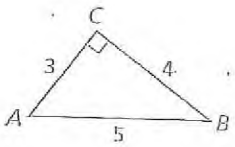
3. Which of the following has the same value as $\sin M$?



Ⓐ $\sin N$ Ⓒ $\cos N$

Ⓑ $\tan M$ Ⓓ $\cos M$

4. Which expression can be used to find $m\angle A$?



Ⓐ $\tan^{-1}(0.75)$ Ⓒ $\cos^{-1}(0.8)$

Ⓑ $\sin^{-1}\left(\frac{3}{5}\right)$ Ⓓ $\tan^{-1}\left(\frac{4}{3}\right)$

5. Which expression is NOT equivalent to $\cos 60°$?

Ⓕ $\frac{1}{2}$ Ⓗ $\frac{\sin 60°}{\tan 60°}$

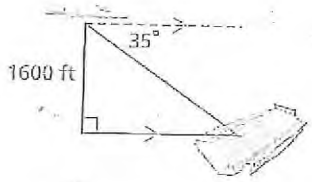
Ⓖ $\sin 30°$ Ⓙ $\cos^{-1}\left(\frac{1}{2}\right)$

6. To the nearest degree, what is the measure of the acute angle formed by Jefferson St. and Madison St.?

Ⓐ 27° Ⓒ 59°

Ⓑ 31° Ⓓ 63°

7. Mai is flying a plane at an altitude of 1600 ft. She sights a stadium at an angle of depression of 35°. What is Mai's approximate horizontal distance from the stadium?



Ⓐ 676 feet Ⓒ 1450 feet

Ⓑ 1120 feet Ⓓ 2285 feet

8. Jeff finds that an office building casts a shadow that is 93 ft long when the angle of elevation to the sun is 60°. What is the height of the building?

Ⓕ 54 feet Ⓖ 81 feet Ⓗ 107 feet Ⓙ 161 feet

9. Nate built a skateboard ramp that covers a horizontal distance of 10 ft. The ramp rises a total of 3.5 ft. What angle does the ramp make with the ground? Round to the nearest degree.

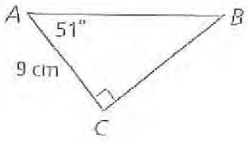
Ⓐ 19°

Ⓑ 20°

Ⓒ 28°

Ⓓ 35°

10. Find the perimeter of the right triangle. Round to the nearest tenth of a centimeter.



Ⓕ 27.9 cm

Ⓖ 30.7 cm

Ⓗ 34.4 cm

Ⓙ 36.0 cm

11. Write $\cos 16°$ in terms of the sine.

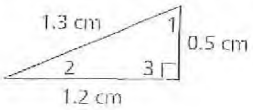
Ⓐ $\sin 164°$

Ⓑ $\sin 74°$

Ⓒ $\sin 84°$

Ⓓ $\sin 16°$

12. Use the trigonometric ratio $\sin A = 0.38$ to determine which angle of the triangle is $\angle A$.



Ⓕ $\angle 2$

Ⓖ $\angle 1$

Ⓗ $\angle 3$

Ⓙ No solution

EOCT Review: Unit 1 (Key)

More Unit 1-2 Practice

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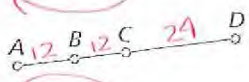

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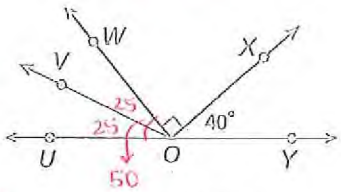


25+90+40

Ⓐ 25° Ⓒ 130°
Ⓑ 65° Ⓓ 155°

What is $m\angle UOX$?

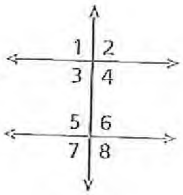
Ⓕ 50° Ⓖ 115° Ⓗ 140° Ⓙ 165°

3. $\overrightarrow{BD}$ bisects $\angle ABC$, $m\angle ABC = (4x + 5)°$, and $m\angle ABD = (3x - 1)°$. What is the value of x?

$3x-1+3x-1=4x+5$
$6x-2=4x+5$
$2x-2=5$
$2x=7$
$x=3.5$

Ⓐ 2.2 Ⓑ 3 Ⓒ 3.5 Ⓓ 7

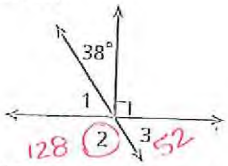
4. Which pair of angles in the diagram must be congruent?



Ⓐ $\angle 1$ and $\angle 5$ Ⓒ $\angle 5$ and $\angle 8$
Ⓑ $\angle 3$ and $\angle 4$ Ⓓ None of the above

$\angle 1$ + $\angle 5$ are only congruent if the two lines are parallel

What is the measure of $\angle 2$?



Ⓕ 38° Ⓗ 128°
Ⓖ 52° Ⓙ 142°

5. Which statement is NOT true if $\angle 2$ and $\angle 6$ are supplementary?

Ⓐ $m\angle 2 + m\angle 6 = 180°$
Ⓑ $\angle 2$ and $\angle 3$ are supplementary.
Ⓒ $\angle 1$ and $\angle 6$ are supplementary.
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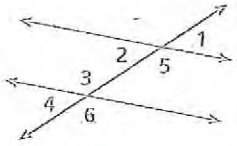
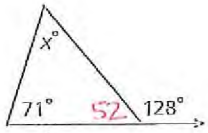


$\angle 2 + \angle 6 = 180$
$\angle 2 = \angle 1$ so $\angle 1 + \angle 6 = 180$
$\angle 6 = \angle 3$ so $\angle 2 + \angle 3 = 180$

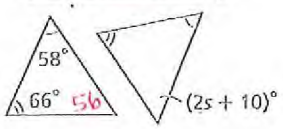
6. What is the value of x?



180-52-71

Ⓐ 19 Ⓒ 57
Ⓑ 52 Ⓓ 71

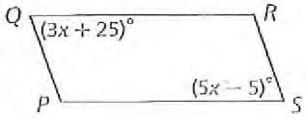
7. Find the value of s.



$2s+10=56$
$2s=46$
$s=23$

Ⓕ 23 Ⓗ 34
Ⓖ 28 Ⓙ 56

8. What is the value of x in $\square PQRS$?



$3x+25=5x-5$
$25=2x-5$
$30=2x \longrightarrow x=15$

Ⓐ 15 Ⓒ 30
Ⓑ 20 Ⓓ 70

9. The diagonals of $\square JKLM$ intersect at Z. Which statement is true?

Ⓕ $JL = KM$ Ⓖ $JL = \frac{1}{2}KM$ Ⓗ $JL = \frac{1}{2}JZ$ Ⓙ $JL = 2JZ$

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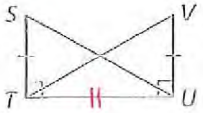
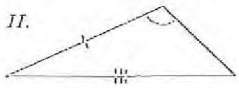


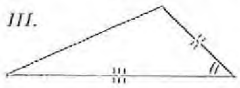
Ⓕ ASA Ⓗ HL
Ⓖ SSS Ⓙ SAS

EOCT Review: Unit 1

Which of the three triangles below can be proven congruent by SSS or SAS?

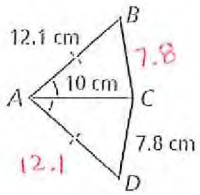
I. 

II. 

III. 

Ⓐ I and II Ⓑ II and III Ⓒ I and III Ⓓ I, II, and III

What is the perimeter of polygon *ABCD*?



Ⓕ 29.9 cm Ⓗ 49.8 cm

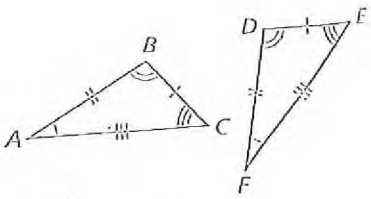
Ⓖ 39.8 cm Ⓙ 59.8 cm

Jacob wants to prove that $\triangle FGH \cong \triangle JKL$ using SAS. He knows that $\overline{FG} \cong \overline{JK}$ and $\overline{FH} \cong \overline{JL}$. What additional piece of information does he need?

Ⓐ $\angle F \cong \angle J$ Ⓒ $\angle H \cong \angle L$

Ⓑ $\angle G \cong \angle K$ Ⓓ $\angle F \cong \angle G$

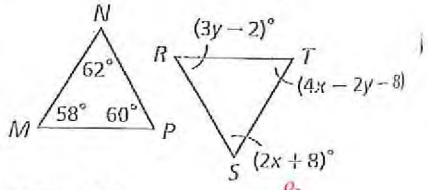
Which congruence statement correctly indicates that the two given triangles are congruent?



Ⓐ $\triangle ABC \cong \triangle EFD$ Ⓒ $\triangle ABC \cong \triangle DEF$

Ⓑ $\triangle ABC \cong \triangle FDE$ Ⓓ $\triangle ABC \cong \triangle FED$

$\triangle MNP \cong \triangle RST$. What are the values of x and y?



Ⓕ $x = 26, y = 21\frac{1}{3}$ Ⓗ $x = 25, y = 20\frac{2}{3}$

Ⓖ $x = 27, y = 20$ Ⓙ $x = 30\frac{1}{3}, y = 16\frac{2}{3}$

$\angle R = \angle M$
$3y - 2 = 58$
$3y = 60$
$y = 20$

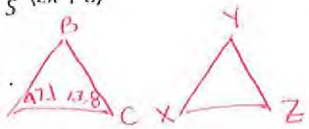
$\angle S = \angle N$
$2x + 8 = 62$
$2x = 54$
$x = 27$

$\triangle ABC \cong \triangle XYZ$. $m\angle A = 47.1°$, and $m\angle C = 13.8°$. Find $m\angle Y$.

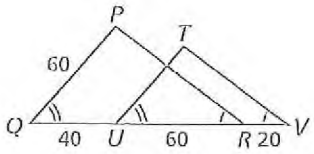
Ⓐ 13.8 Ⓒ 76.2

Ⓑ 42.9 Ⓓ 119.1

$180 - 47.1 - 13.8$



What is the length of $\overline{TU}$?

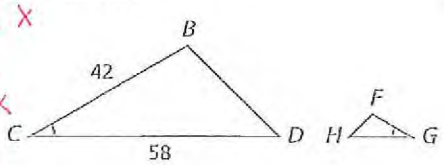


Ⓐ 36 Ⓒ 48

Ⓑ 40 Ⓓ 90

$100 \cdot \_ = 80$
$SF = 0.8$
$60 \cdot 0.8 = TU$
$48 = TU$

Which dimensions guarantee that $\triangle BCD \sim \triangle FGH$?



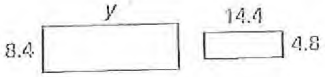
Ⓕ $FG = 11.6, GH = 8.4$ $\frac{42}{11.6} = \frac{58}{8.4}$ X

Ⓖ $FG = 12, GH = 14$ $\frac{42}{12} = \frac{58}{14}$ X

Ⓗ $FG = 11.4, GH = 11.4$ $\frac{42}{11.4} = \frac{58}{11.4}$ X

Ⓙ $FG = 10.5, GH = 14.5$ $\frac{42}{10.5} = \frac{58}{14.5}$

Which value of y makes the two rectangles similar?



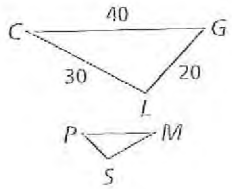
Ⓐ 3 Ⓒ 25.2

Ⓑ 8.2 Ⓓ 28.8

$8.4 \cdot \_ = 4.8$
$SF = \frac{4}{7}$

$y \cdot \frac{4}{7} = 14.4$
$y = 25.2$

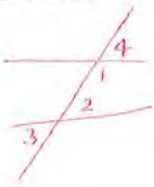
$\triangle CGL \sim \triangle MPS$. The similarity ratio of $\triangle CGL$ to $\triangle MPS$ is $\frac{5}{2}$. What is the length of $\overline{PS}$?



Ⓕ 8 Ⓗ 50

Ⓖ 12 Ⓙ 75

Ⓐ For two lines and a transversal, $\angle 1$ and $\angle 2$ are same-side interior angles, $\angle 2$ and $\angle 3$ are vertical angles, and $\angle 3$ and $\angle 4$ are alternate exterior angles. Which classification best describes the angle pair $\angle 2$ and $\angle 4$?



Ⓕ Adjacent angles

Ⓖ Alternate interior angles

Ⓗ Corresponding angles

Ⓙ Vertical angles

If $\triangle ABC \cong \triangle PQR$ and $\triangle RPQ \cong \triangle XYZ$, which of the following angles is congruent to $\angle CAB$?

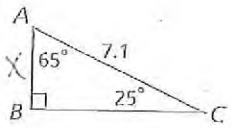
Ⓐ $\angle QRP$ Ⓒ $\angle YXZ$

Ⓑ $\angle XZY$ Ⓓ $\angle XYZ$

Key

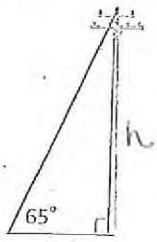
PRT Review: Unit 2

1. Which expression can be used to find AB?



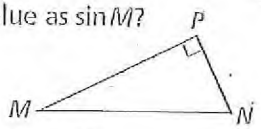
(A) $7.1(\sin 25°)$ (C) $7.1(\sin 65°)$
(B) $7.1(\cos 25°)$ (D) $7.1(\tan 65°)$

2. A steel cable supports an electrical tower as shown. The cable makes a 65° angle with the ground. The base of the cable is 17 ft from the tower. What is the height of the tower to the nearest foot?



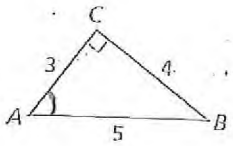
(F) 8 feet (H) 36 feet
(G) 15 feet (J) 40 feet

3. Which of the following has the same value as $\sin M$?



(A) $\sin N$ (C) $\cos N$
(B) $\tan M$ (D) $\cos M$

4. Which expression can be used to find $m\angle A$?



(A) $\tan^{-1}(0.75)$ (C) $\cos^{-1}(0.8)$
(B) $\sin^{-1}\left(\frac{3}{5}\right)$ (D) $\tan^{-1}\left(\frac{4}{3}\right)$

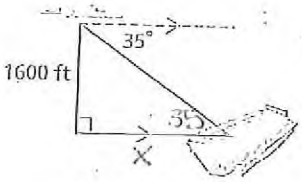
5. Which expression is NOT equivalent to $\cos 60°$?

(F) $\frac{1}{2}$ (H) $\frac{\sin 60°}{\tan 60°}$
(G) $\sin 30°$ (J) $\cos^{-1}\left(\frac{1}{2}\right)$

6. To the nearest degree, what is the measure of the acute angle formed by Jefferson St. and Madison St.?

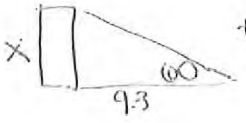
(A) 27° (C) 59°
(B) 31° (D) 63°

7. Mai is flying a plane at an altitude of 1600 ft. She sights a stadium at an angle of depression of 35°. What is Mai's approximate horizontal distance from the stadium?



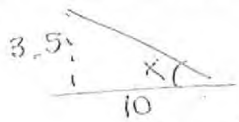
(A) 676 feet (C) 1450 feet
(B) 1120 feet (D) 2285 feet

8. Jeff finds that an office building casts a shadow that is 93 ft long when the angle of elevation to the sun is 60°. What is the height of the building?



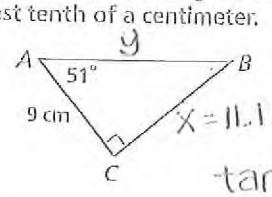
(F) 54 feet (G) 81 feet (H) 107 feet (J) 161 feet

9. Nate built a skateboard ramp that covers a horizontal distance of 10 ft. The ramp rises a total of 3.5 ft. What angle does the ramp make with the ground? Round to the nearest degree.



(A) 19°
(B) 20°
(C) 28°
(D) 35°

10. Find the perimeter of the right triangle. Round to the nearest tenth of a centimeter.

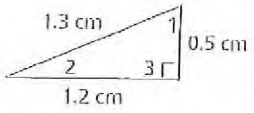


(F) 27.9 cm
(G) 30.7 cm
(H) 34.4 cm
(J) 36.0 cm

11. Write $\cos 16°$ in terms of the sine.

(A) $\sin 164°$
(B) $\sin 74°$
(C) $\sin 84°$
(D) $\sin 16°$

12. Use the trigonometric ratio $\sin A = 0.38$ to determine which angle of the triangle is $\angle A$.



(F) $\angle 2$
(G) $\angle 1$
(H) $\angle 3$
(J) No solution

$\tan 51 = \frac{x}{9}$
$x = 11.11$
$\cos 51 = \frac{9}{y}$
$y = 14.3$
$14.3 + 11.11 + 9 = 34.41$

$\tan^{-1}\left(\frac{1.4}{8.7}\right)$
9.14

$\tan 35 = \frac{1600}{x}$

$\tan 60 = \frac{x}{93}$

$\tan^{-1}\left(\frac{3.5}{10}\right)$

$\sin 1 = \frac{1.2}{1.3} = 0.92$
$\sin 2 = \frac{0.5}{1.3} = 0.38$