NAME: _____ DATE: _____

TRIANGLES - REVIEW PERIOD: _____

Solve for each unknown side in each right triangle.

1. If $a = 6$ and $b = 8$, then find c.

2. If $b = 24$ and $c = 26$, then find a.

3. Find the length between opposite corners of a square with side lengths 10 inches. Round your answer to the nearest tenth. (Draw a picture.)

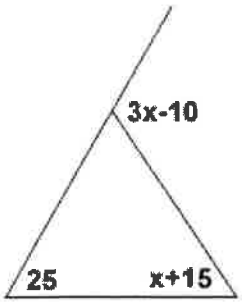
Determine whether each triangle with sides of given lengths is a right triangle. Write YES or NO. Justify your answer.

5. 10 miles, 24 miles, 25 miles

6. 12 cm, 16 cm, 20 cm

Find the value of x algebraically. Then find the measure of the exterior angle. Show your work in the box. Circle your answer.

7.



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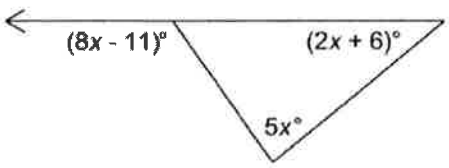

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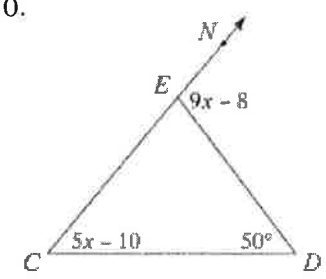
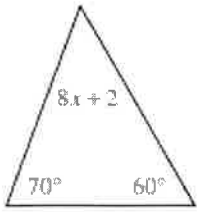


Write an equation to find the value of x. Then solve for x algebraically. Show your work in the box. Circle your final answer.

11.



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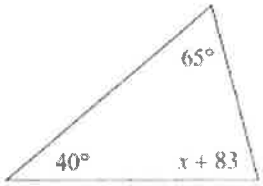

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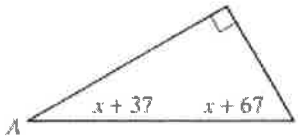

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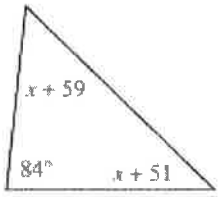


15. Determine if the given lengths can be measures of the sides of a triangle. Justify your answer.

3 in, 9 in, and 8 in

16. Determine if the given lengths can be measures of the sides of a triangle. Justify your answer.

16 ft, 6 ft, and 2 ft

NAME: KEY DATE: _____

TRIANGLES - REVIEW PERIOD: _____

Solve for each unknown side in each right triangle.

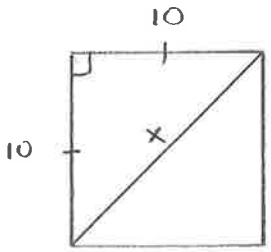
1. If $a = 6$ and $b = 8$, then find c.

$$a^2 + b^2 = c^2$$
$$6^2 + 8^2 = c^2$$
$$36 + 64 = c^2$$
$$\sqrt{100} = \sqrt{c^2}$$
$$10 = c$$

2. If $b = 24$ and $c = 26$, then find a.

$$a^2 + b^2 = c^2$$
$$a^2 + 24^2 = 26^2$$
$$a^2 + 576 = 676$$
$$-576 \quad -576$$
$$\sqrt{a^2} = \sqrt{100}$$
$$a = 10$$

3. Find the length between opposite corners of a square with side lengths 10 inches. Round your answer to the nearest tenth. (Draw a picture.)



$$a^2 + b^2 = c^2$$
$$10^2 + 10^2 = x^2$$
$$100 + 100 = x^2$$
$$\sqrt{200} = \sqrt{x^2}$$
$$14.1 = x$$

in

Determine whether each triangle with sides of given lengths is a right triangle. Write YES or NO. Justify your answer.

5. 10 miles, 24 miles, 25 miles

$$a^2 + b^2 = c^2$$
$$10^2 + 24^2 \stackrel{?}{=} 25^2$$
$$100 + 576 = 625$$
$$676 \neq 625$$

No; 10, 24, 25 do not form a right Δ b/c $676 \neq 625$.

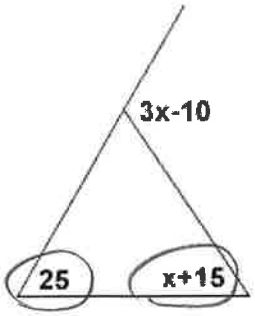
6. 12 cm, 16 cm, 20 cm

$$a^2 + b^2 = c^2$$
$$12^2 + 16^2 \stackrel{?}{=} 20^2$$
$$144 + 256 = 400$$
$$400 = 400$$

Yes; 12, 16, 20 do form a right Δ b/c $400 = 400$.

Find the value of *x* algebraically. Then find the measure of the exterior angle. Show your work in the box. Circle your answer.

7.



$3x - 10 = x + 15 + 25$

$3x - 10 = x + 40$

$-1x \quad -x$

$2x - 10 = 40$

$+10 \quad +10$

$\frac{2x}{2} = \frac{50}{2}$

$x = 25°$

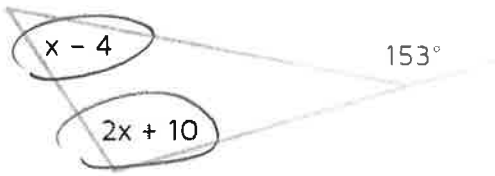
$3x - 10$

$3(25) - 10$

$75 - 10$

$65°$ Ext. ∠

8.



$153 = x - 4 + 2x + 10$

$153 = 3x + 6$

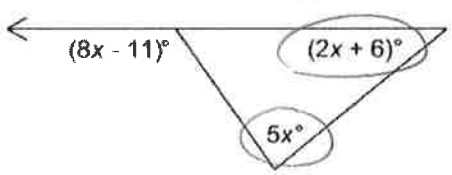
$-6 \quad -6$

$\frac{147}{3} = \frac{3x}{3}$

$49° = x$

$153°$ - Ext. ∠

9.



$8x - 11 = 5x + 2x + 6$

$8x - 11 = 7x + 6$

$-7x \quad -7x$

$x - 11 = 6$

$+11 \quad +11$

$x = 17°$

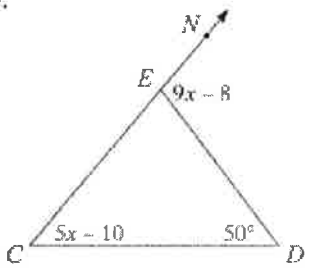
$8x - 11$

$8(17) - 11$

$136 - 11$

$125°$ Ext ∠

10.



$5x - 10 + 50 = 9x - 8$

$5x + 40 = 9x - 8$

$-5x \quad -5x$

$40 = 4x - 8$

$+8 \quad +8$

$\frac{48}{4} = \frac{4x}{4}$

$12 = x$

$9x - 8$

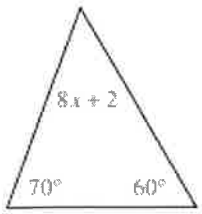
$9(12) - 8$

$108 - 8$

$100°$ Ext ∠

Write an equation to find the value of x. Then solve for x algebraically. Show your work in the box. Circle your final answer.

11.



$70+60+8x+2 = 180$

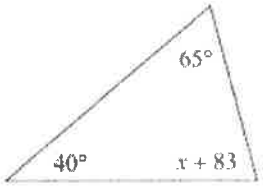
$8x + 132 = 180$

$-132 \quad -132$

$\frac{8x}{8} = \frac{48}{8}$

$x = 6°$

12.



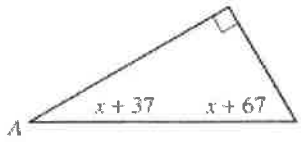
$180 = x + 83 + 65 + 40$

$180 = x + 188$

$-188 \quad -188$

$-8 = x$

13.



$x+37+x+67+90 = 180$

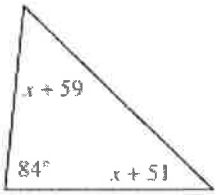
$2x + 194 = 180$

$-194 \quad -194$

$\frac{2x}{2} = \frac{-14}{2}$

$x = -7°$

14.



$x+59+84+x+51 = 180$

$2x + 194 = 180$

$-194 \quad -194$

$\frac{2x}{2} = \frac{-14}{2}$

$x = -7°$

15. Determine if the given lengths can be measures of the sides of a triangle. Justify your answer.

3 in, 9 in, and 8 in

$3+9>8$ T

$9+8>3$ T

$8+3>9$ T

YES

16. Determine if the given lengths can be measures of the sides of a triangle. Justify your answer.

16 ft, 6 ft, and 2 ft

$16+6>2$ T

$6+2>16$ F

$2+16>6$ T

No