

Geometry Study Guide

Name Yung

Date _____ Pd _____

State if the three numbers can be the measures of the sides of a triangle.

1) 7, 5, 4

yes

2) 3, 6, 2

No

3) 5, 2, 4

yes

4) 8, 2, 8

yes

Two sides of a triangle have the following measures. Find the range of possible measures for the third side.

5) 9, 5

$4 < x < 14$

6) 5, 8

$3 < x < 13$

7) 6, 10

$4 < x < 16$

8) 6, 9

$3 < x < 15$

9) If an isosceles triangle has only one 80 degree angle, what must be the measures of the other 2 angles? (Draw a picture if it helps)

50° each

10) Name the cross-sections for the following three-dimensional figures.

Figure	Parallel to the base	Perpendicular to the base
Rectangular prism	rectangle	rectangle
Triangular prism	triangle	rectangle
Sphere	circle	circle
Cylinder	circle	rectangle
Cone	circle	triangle
Rectangular pyramid	rectangle	triangle
Triangular pyramid	triangle	triangle

11) What is the relationship between the circumference of every circle to its diameter?

$$\frac{C}{d} = \pi \quad * \text{Circ is diam.} \times \pi$$

12) A tire on a bicycle rolled a certain distance. If the radius of the tire is 2 ft. and the tire made 3 revolutions, how far did the bike travel? (Use 3.14 for pi)



$$C = 2\pi r$$

$$2(3.14)(2)$$

$$C = 12.56 \times 3$$

37.68 ft.

13) There is a circular fountain in the park with a diameter of 10 feet. The city would like to place a fence around it that is 6 feet from the edge of the fountain. How long should the fence be? (use 3.14 for pi)

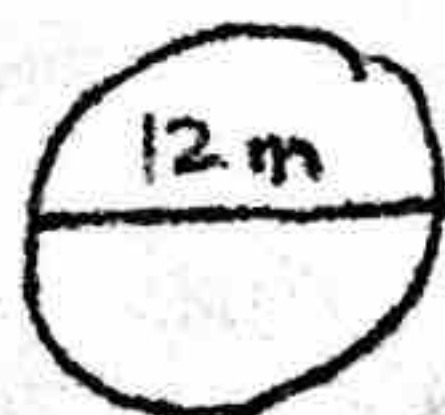


$$C = 2\pi r$$

$$C = 2(3.14)(11)$$

69.08 ft.

14) If the diameter of a circle is 12m, what is the circle's area?

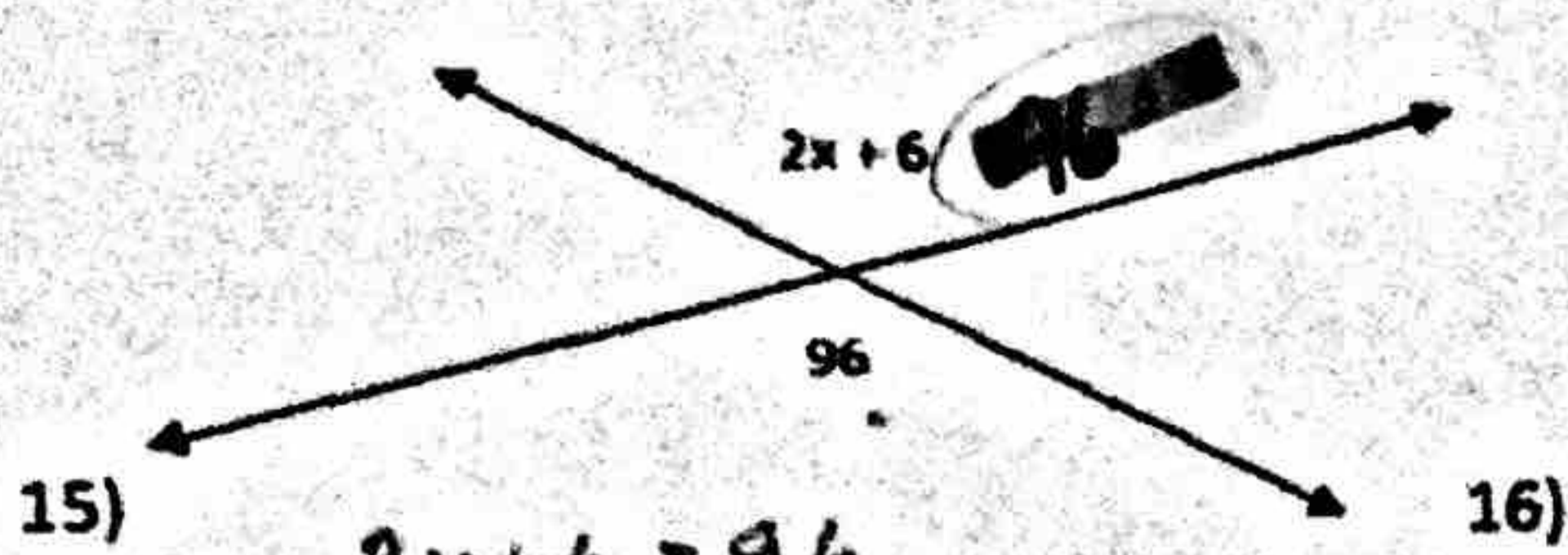


$$a = \pi r^2$$

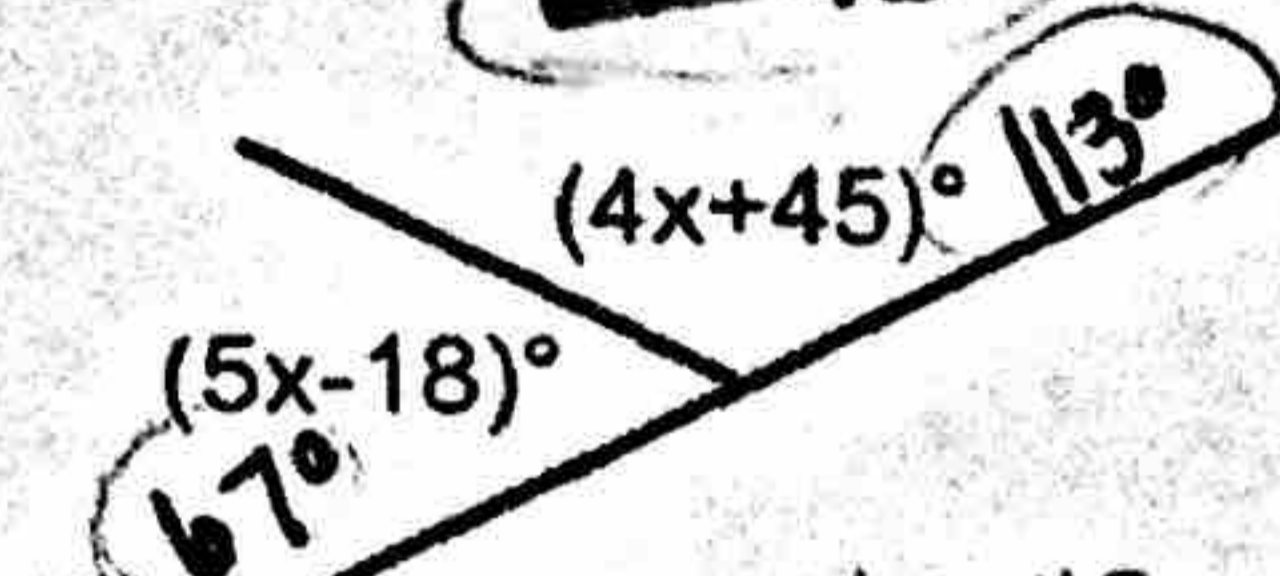
$$a = 3.14(6)^2$$

113.04m²

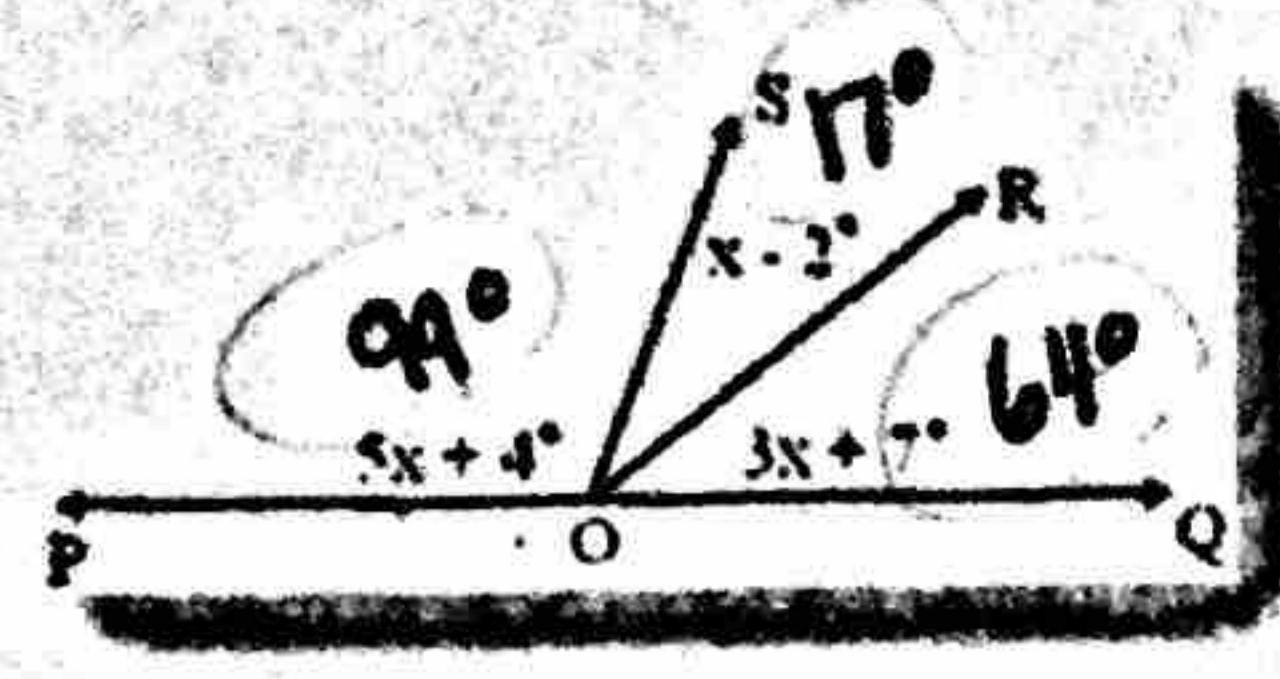
Solve for x and all of the angle measures.



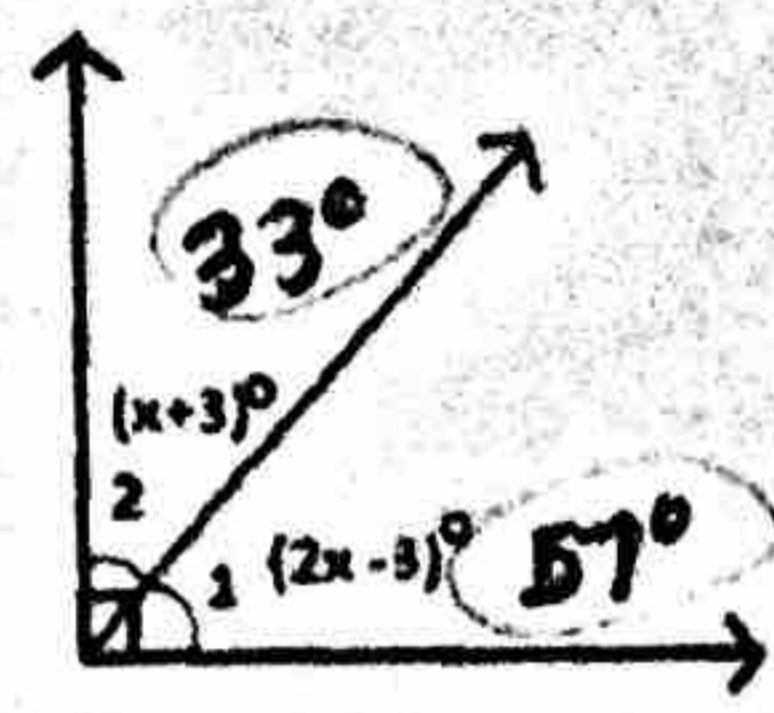
15) $2x+6 = 96$
 $2x = 90$
 $x = 45$



17) $180 = 5x-18 + 4x+45$
 $180 = 9x + 27$
 $153 = 9x$
 $x = 17$

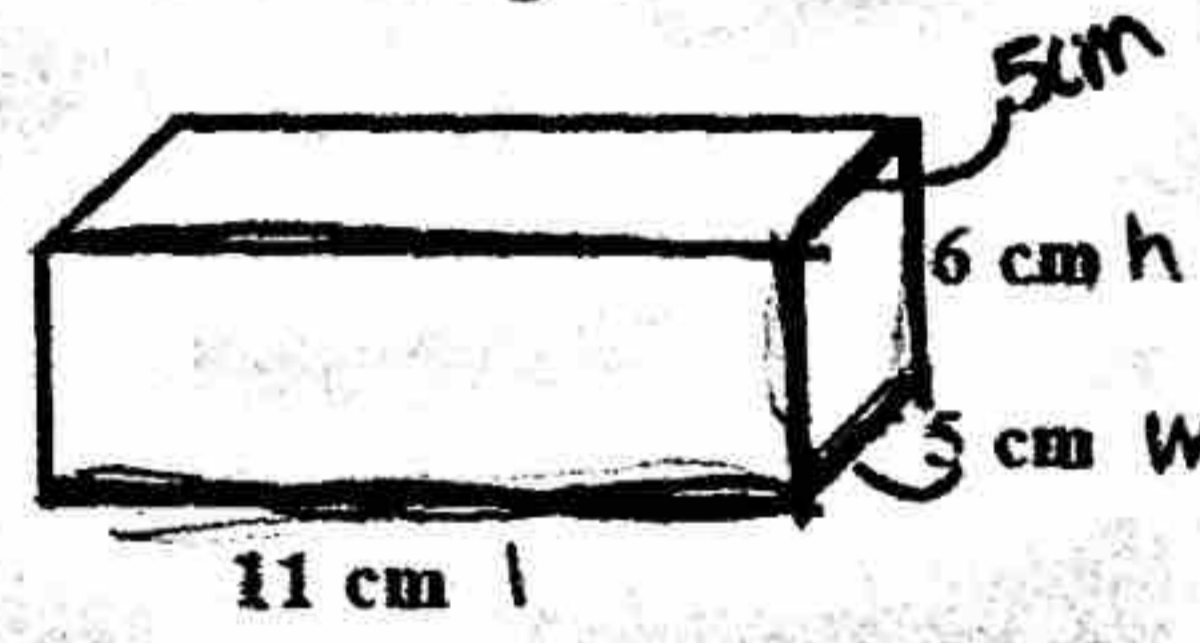


$180 = 5x+4 + x-2 + 3x+7$
 $180 = 9x + 9$
 $171 = 9x$
 $x = 19$



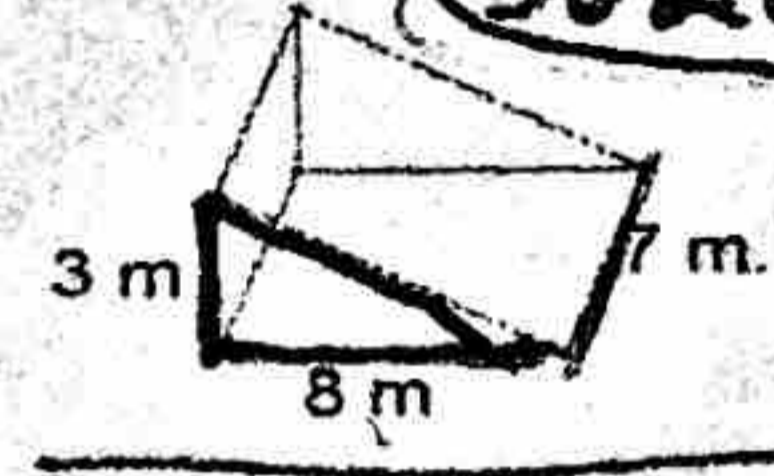
$x+3 + 2x-3 = 90$
 $3x = 90$
 $x = 30$

19) Jamie's mom wants to wrap this gift for a birthday party. How much wrapping paper will she need to cover the gift?



SA = $2(lw) + 2(lh) + 2(wh)$
 top 55
 bottom 55
 front 66
 back 66
 side1 30
 side2 30
 $2(11 \times 5) + 2(11 \times 6) + 2(5 \times 6)$
 $2(55) + 2(66) + 2(30)$
 $110 + 132 + 60$
 302 cm^2

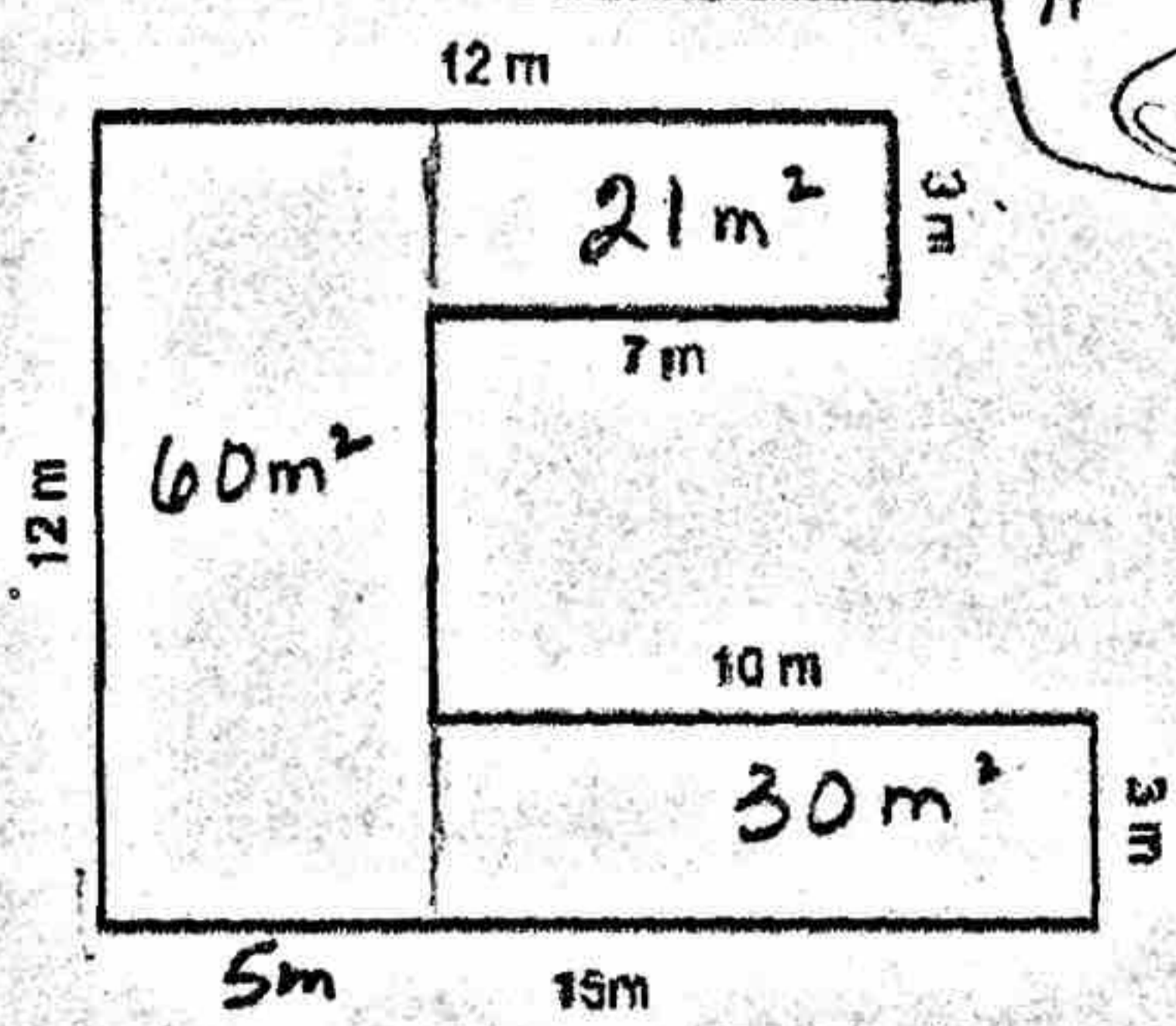
20) What is the volume of this right triangular prism?



What is the area of the triangular base?

$A = \frac{1}{2}(l \cdot w)$
 $A = \frac{1}{2}(3 \cdot 8)$
 $A = 12 \text{ m}^2$

$V = \frac{1}{2}(l \cdot w \cdot h)$
 $V = \frac{1}{2}(3 \cdot 8 \cdot 7)$
 $V = 84 \text{ m}^3$



$60 + 30 + 21 = 111 \text{ m}^2$

21)

Find the area of this figure.

Key
 Key Point 229

Name _____ KEY _____ Date _____ Period _____

Complementary and Supplementary Angles Practice Worksheet

For questions 1 – 6, find the complement of each angle. If the angle does not have a complement, write NONE.

- | | | | | | |
|---------------|------------------------------|----------------|-----------------------------|---------------|------------------------------|
| 1. 44° | <u>46°</u> | 3. 108° | <u>NONE</u> | 5. 90° | <u>NONE</u> |
| 2. 35° | <u>55°</u> | 4. 81° | <u>9°</u> | 6. 16° | <u>74°</u> |

For questions 7 – 12, find the supplement of each angle. If the angle does not have a supplement, write NONE.

- | | | | | | |
|----------------|------------------------------|----------------|-------------------------------|-----------------|------------------------------|
| 7. 147° | <u>33°</u> | 9. 38° | <u>142°</u> | 11. 90° | <u>90°</u> |
| 8. 105° | <u>75°</u> | 10. 87° | <u>93°</u> | 12. 170° | <u>10°</u> |

For questions 13-14, read each problem carefully. Show all work!

13. Find the measure of two supplementary angles (let x represent the acute angle) if the difference in the measures of the two angles is 24.

Solution: let x = acute angle; the other angle = $180 - x$
 Set up the equation: $(180 - x) - x = 24$
 Answer: the two angles measure 78° and 102°

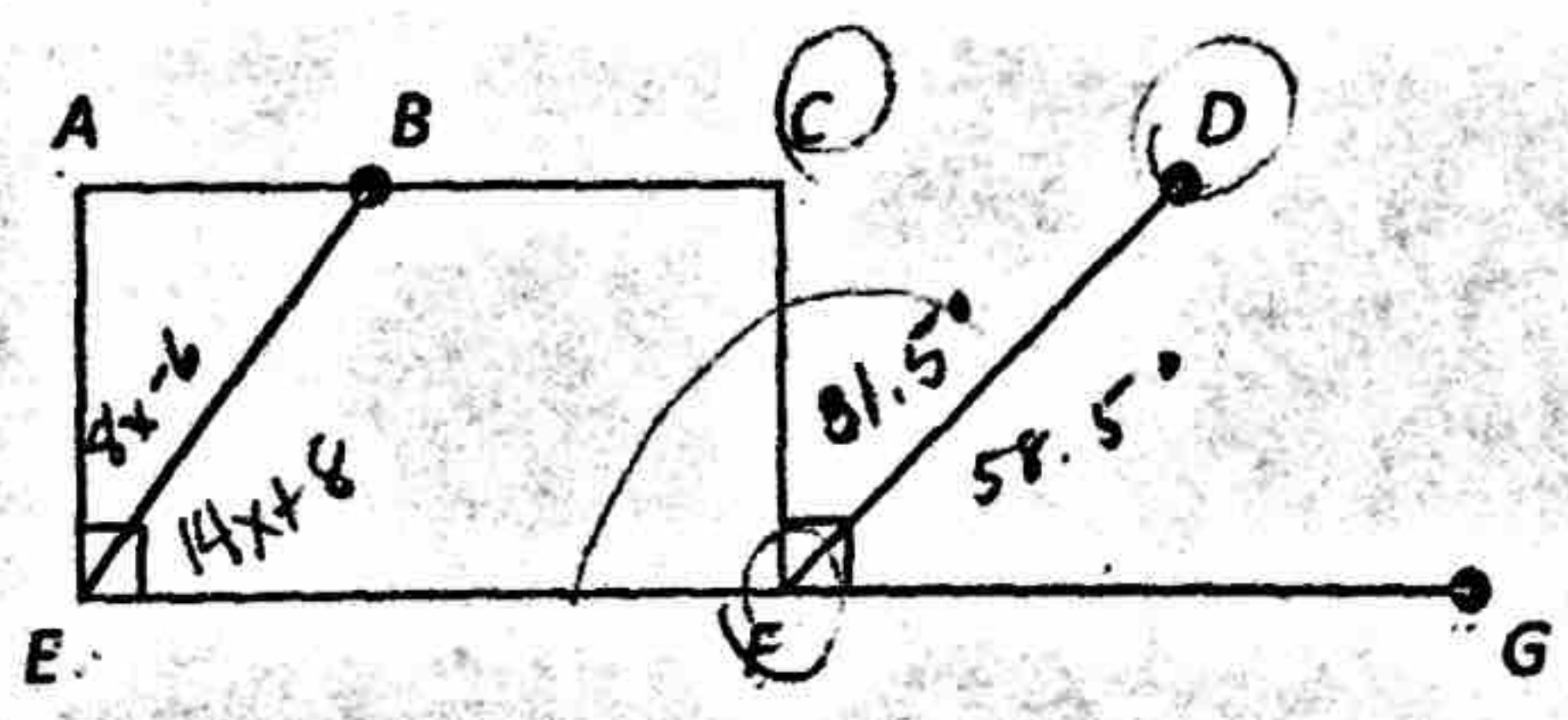
14. Draw two angles that are supplementary, but not adjacent, including its angle measures.

Answers may vary. Example: one angle that measures ~~30 degrees~~ and the other ~~60 degrees~~ drawn as separate angles

For questions 15-18, circle TRUE if the statement is true and FALSE if the statement is false.

- 15. True or False: If two adjacent angles form a linear pair, they must be supplementary angles.
- 16. True or False: If two angles are supplementary and one is obtuse, the other one is acute.
- 17. True or False: If segment XY is perpendicular to segment XZ, then angle YXZ is acute.
- 18. True or False: If two angles are complementary, they are both acute angles.

For questions 19 – 20, use the figure below to answer each question.



$$8x - 6 + 14x + 8 = 90$$

$$22x = 88$$

$$x = 4$$

19. If $m\angle AEB = 8x - 6$ and $m\angle BEF = 14x + 8$, find the value of x. Then find the measure of angle AEB and angle BEF.

Solution: $8x - 6 + 14x + 8 = 90$
 $x = 4$; $m\angle AEB = 26^\circ$; $m\angle BEF = 64^\circ$

20. If $m\angle EFD = 10x + 14$ and $m\angle DFG = 6x - 6$, find the value of x and the measure of angle CFD.

Solution: $10x + 14 + 6x - 6 = 180$
 $x = 10.75$; $m\angle CFD = 31.5^\circ$

$$6x - 6$$