مراجعة نهاية الفصل وفق الهيكل الوزاري ريفيل المسار المتقدم

التواصل الاجتماعي بحسب الصف السابع

روابط مواد الصف السابع على تلغرام

الرياضيات	اللغة الانجليزية	اللغة العربية	التربية الاسلامية

المزيد من الملفات بحسب الصف السابع والمادة رياضيات في الفصل الثاني

Grade 7 ADV

EOT2 Coverage 2023-2024

AL Hemma School C2

Q

A

Part 1
Multiple Choice Qestions

(15 questions, 4 marks each, SwiftAssess)

Simplify algebraic expressions by identifying and combining like terms.

Use the Distributive Property to expand each expression. (Examples 4–6)

9. $2(-3x + 5)$

10. $6(-4x + 3y)$

11. $(3y - 2z)5$

12. $(-2x - 7)4$

13. $-7(x - 2)$

14. $-3(8x - 4)$

Use different methods to add linear expressions.

14. Jade and Chet get a weekly allowance plus x dollars for each time the pair walks the dog. They plan to save 40% of their combined earnings in one week to purchase a new app for their smart tablet. Their earnings in a certain week are represented in the table. If their parents pay $2.50 each time they walk the dog, how much money will they have to purchase the app?

	Earnings ($)
Jade	$8 + 2x$
Chet	$4x + 6$

15. Elsa is selling bracelets at craft shows to raise money for an animal shelter. She is also accepting additional cash donations. She plans to give 75% of the money from all bracelet sales and donations to the shelter. She will use the remaining money to buy more supplies. Bracelet sales and donations from the first craft show are represented by the expression $24n + 32$, where n represents the amount Elsa charges for each bracelet. The second craft show sales and donations is represented by the expression $40n + 56$. If Elsa charges $4 for each bracelet, how much money will she donate to the animal shelter?

Use different methods to add linear expressions.

16. Identify Structure Write two linear expressions that have a sum of $6x + 9$.

17. Identify Structure What linear expression would you need to add to $(-6x + 3)$ to have a sum of $-x$?

18. Which One Doesn't Belong? Identify the linear expression that is not equivalent to the other three. Explain your reasoning.

a. $(2x - 1) + (-3x + 7)$

b. $(-5x + 3) + (4x + 3)$

c. $(5x - 6) + (-6x + 12)$

d. $(-5x - 1) + (6x + 7)$

19. Reason Inductively When will the sum of two linear expressions with only x-terms be zero?

Use different methods to subtract linear expressions.

Find the additive inverse of each linear expression. (Example 1)

1. $3x - 6$

2. $-9x + 3$

3. $-4x - 8$

Subtract. (Examples 2 and 3)

4. $(8x + 9) - (6x - 2)$

5. $(3x - 4) - (x - 5)$

6. $(-5x - 9) - (-6x - 1)$

7. $(-7x - 14) - (x - 5)$

8. $(-8x + 2) - (-5x + 7)$

9. $\left(\dfrac{3}{5}x + \dfrac{3}{4}\right) - \left(\dfrac{1}{3}x - \dfrac{1}{8}\right)$

Use GCF to factor linear expressions.

Factor each expression. If the expression cannot be factored, write *cannot be factored*.
(Examples 3–5)

7. $5x + 35$

8. $8x - 14$

9. $3x + 11y$

10. $32x - 15$

11. $72x - 18xy$

12. $45xy - 81y$

13. $25x + 14y$

14. $\frac{1}{3}x - \frac{1}{3}$

15. $\frac{1}{2}x + \frac{1}{2}$

Use GCF to factor linear expressions.

16. Multiselect Select all of the expressions that cannot be factored.

☐ $7x - 14y$ ☐ $27x - 18y$

☐ $9x + 31$ ☐ $15x - 28y$

☐ $4x - 5y + 2z$ ☐ $24x + 12x$

18. The table shows the lengths of hiking trails. It took Lannie 1.9 hours to hike Ranger Cove Trail. It took Ava 4 hours to hike Mohawk Trail. Write and solve an equation to find the average hiking rate for Lannie. Write and solve an equation to find the average hiking rate for Ava. What is the difference between their average hiking rates? Round to the nearest tenth.

Trail	Distance (miles)
Mohawk	6.8
Ranger Cove	4.8
Willow Oak	5.7

19. Monica earned twice as much as Samuel walking dogs. The amount Samuel earned was $7 more than Kara earned. Suppose Monica earned $48.50. Write and solve an equation to find the amount Samuel earned. Write and solve an equation to find the amount Kara earned. What is the difference between the greatest amount earned and the least amount earned walking dogs?

20. Create Write an addition equation and a subtraction equation that each have 4 as a solution.

21. MP **Find the Error** A student solved $\frac{1}{2}x = -40$. Find the student's mistake and correct it.

$$\frac{1}{2}x \div 2 = -40 \div 2$$

$$x = -20$$

Solve each equation. Check your solution. (Examples 1–4)

1. $5x + 2 = 17$

2. $19 = 4x + 3$

3. $-18 = 6 + 6x$

4. $-3x - 9 = -15$

5. $-6x - 7 = 17$

6. $-5 = 3x - 14$

7. $3.8 = 2x - 11.2$

8. $5x - 3.3 = 7.2$

9. $1.3x + 1.5 = 5.4$

14. The table shows the record high temperature, in degrees Fahrenheit (°F) or degrees Celsius (°C), of certain states. The formula $F = 1.8C + 32$ can be used to convert between degrees Celsius and degrees Fahrenheit. What is the difference, in degrees Celsius, between Nevada's record high temperature and Alaska's record high temperature? Round to the nearest tenth.

State	Record High Temperature
Alaska	44° C
Florida	109° F
Nevada	125° F
Texas	49° C

15. The table shows the boiling point of several liquids in degrees Fahrenheit (°F) or degrees Celsius (°C). The formula $F = 1.8C + 32$ can be used to convert between degrees Fahrenheit and degrees Celsius. What is the difference, in degrees Celsius, between petroleum's boiling point and iodine's boiling point?

Liquid	Boiling Point
Aniline	363.8° F
Iodine	184.3° C
Petroleum	410° F
Petrol	95° C

16. Create Write a real-world problem that could be represented by the equation $3x + 12 = 30$. Then solve the equation.

17. 🆒 **Find the Error** A student is solving $-5 + 2x = 15$. Find the student's mistake and correct it.

$$-5 + 2x = 15$$

$$-5 + (-5) + 2x = 15 + (-5)$$

$$2x = 10$$

$$x = 5$$

1. Easton went to a concert with some of his friends. The tickets cost $29.50 each, and they spent a total of $15 on parking. The total amount spent was $133. Determine how many people went to the concert. (Example 1)

2. Ishi bought a $6.95 canvas and 8 tubes of paint. She spent a total of $24.95 on the canvas and paints. Determine the cost of each tube of paint. (Example 1)

3. A taxi service charges $1.50 plus $0.60 per mile for a trip to the airport. The total charge is $13.50. Determine how many miles it is to the airport. (Example 1)

4. At the market, Meyer buys a bunch of bananas for $0.65 per pound and a frozen pizza for $4.99. The total for his purchase was $6.94, without tax. Determine how many pounds of bananas Meyer bought. (Example 1)

5. A hot air balloon is at an altitude of $100\frac{1}{5}$ yards. The balloon's altitude decreases by $10\frac{4}{5}$ yards every minute. Determine the number of minutes it will take the balloon to reach an altitude of 57 yards. (Example 2)

6. The current temperature is 48°F. It is expected to drop 1.5°F each hour. Determine in how many hours the temperature will be 36°F. (Example 2)

7. Mariko and her friend spent $24.50 on lunch. Their lunches cost the same amount, and they used a $4 off coupon. Determine the cost of each lunch. (Example 2)

8. Open Response The table shows the amount of water Joel had in his bathtub to wash his dog and his desired water level. If the water drains at a rate of 14 gallons per minute, how many minutes will it take the tub to drain to his desired level?

Starting Water Level	42 gallons
Desired Water Level	28 gallons

Solve each equation. Check your solution. (Examples 1–4)

1. $4(x + 8) = 44$

2. $7(x + 8) = 49$

3. $-2(x + 4) = 18$

4. $10(x - 5) = -80$

5. $-5(x - 10) = -35$

6. $-9(x - 4) = 81$

7. $0.4(x - 7) = 18$

8. $-0.25(8 + x) = 14$

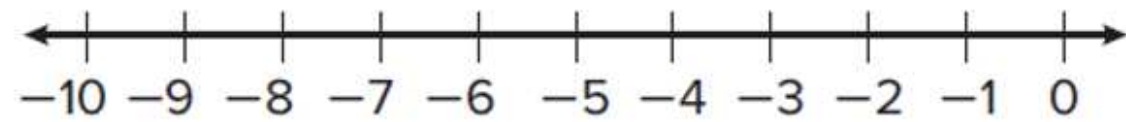**9.** $-0.8(10 - x) = 36$
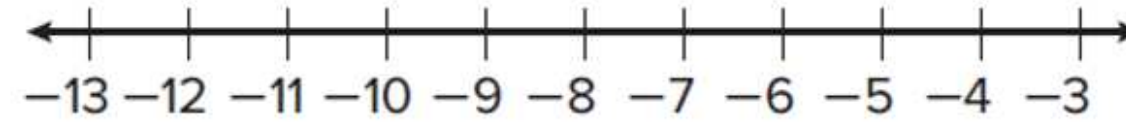
1. $x + 5 < 7$
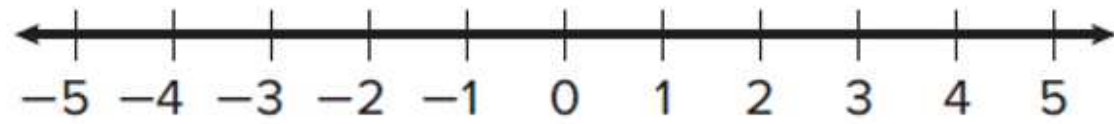
2. $1 > x + 6$
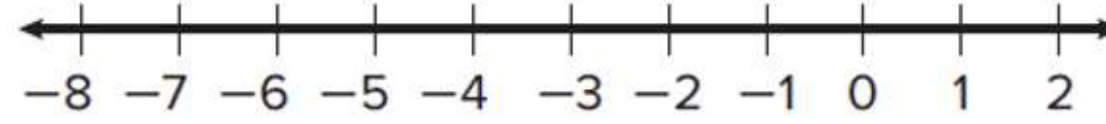
3. $x + 8 \geq 14$
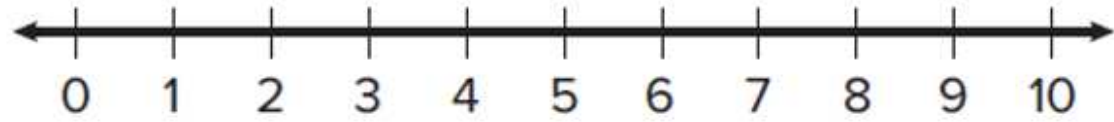
4. $5 \leq x + 12$
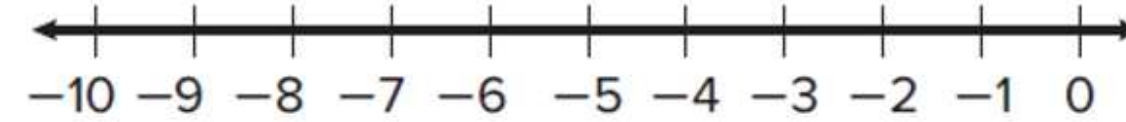
5. $x + 5.4 < -1.6$

6. $x + 7.5 > -2.5$

| 9 | Use inverse operations to solve one-step addition and subtraction inequalities. | 1 - 10 | P.No. 339 |
| | | 13 - 15 | P.No. 340 |

7. $3 < \dfrac{1}{3} + x$

```
←——+——+——+——+——+——+——+——+——+——+——+——→
   -3  -2  -1   0   1   2   3   4   5   6   7
```

8. $4 \geq x + \dfrac{3}{4}$

```
←——+——+——+——+——+——+——+——+——+——+——→
   -5  -4  -3  -2  -1   0   1   2   3   4   5
```

9. $6.9 < x - 2.3$

```
←——+——+——+——+——+——+——+——+——+——+——→
   -8  -7  -6  -5  -4  -3  -2  -1   0   1   2
```

10. $4 \leq x - 7$

```
←——+——+——+——+——+——+——+——+——+——+——→
    3   4   5   6   7   8   9  10  11  12  13
```

13. Renee started with more than 4 pounds of brown sugar. The table shows the amount of brown sugar she used when making cookies. Solve the inequality $x + 1\frac{1}{4} > 4$ to find the amount of brown sugar x, in pounds, that Renee has remaining. How many ounces of brown sugar does she have left?

	Brown Sugar (pounds)
Amount Used	$1\frac{1}{4}$
Amount Remaining	x

14. To prepare for a dance competition, a dance team needs to practice at least 12.75 hours a week. The team has already practiced 10.5 hours this week. Solve the inequality $10.5 + x \geq 12.75$ to find the amount of time x, in hours, the team has left to practice. What is the minimum number of minutes the team needs to practice?

15. Write an addition inequality and a subtraction inequality that each have the solution set graphed below.

16. Reason Abstractly Compare and contrast the solutions $x < 2$ and $x \leq 2$.

1. Gabe went to the amusement park with $40 to spend. His ticket cost $26.50. Determine how much Gabe can spend on souvenirs and snacks. Then interpret the solution. (Example 1)

2. Drew practices piano at least 45 minutes per day. He has already practiced 18.5 minutes today. Determine how much longer he will have to practice. Then interpret the solution. (Example 1)

3. A dolphin is swimming at a depth of −50 feet and then ascends a certain number of feet to a depth above −35 feet. Determine the number of feet the dolphin ascended. Then interpret the solution. (Example 1)

4. Elena's account balance with her parents is −$5.50. She adds a certain amount of money to her balance by mowing the lawn. Elena now has an account balance less than $20. Determine a possible amount she earned mowing the lawn. Then interpret the solution. (Example 1)

5. Linda has two cats. The difference in weight of her Maine Coon and Siberian is at least 6 pounds. Linda's Siberian has a weight of $8\frac{3}{4}$ pounds. Determine the possible weight of the Maine Coon. Then interpret the solution. (Example 2)
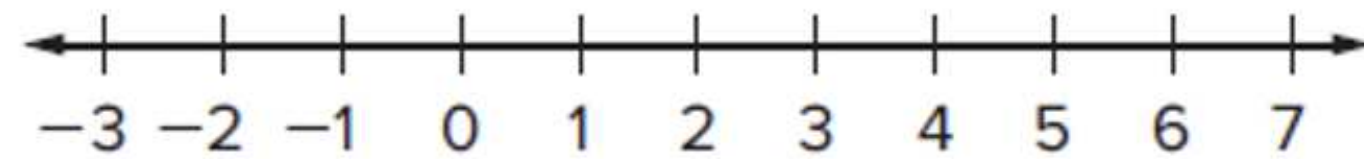
6. The Hendersons have a sedan and a minivan. The difference in mileage of the two vehicles is greater than 4,500 miles. The minivan has 12,755.25 miles. Determine the possible number of miles on the sedan. Then interpret the solution. (Example 2)

7. The difference between the monthly high and low temperatures was less than 27° Fahrenheit. The monthly low temperature was –2° Fahrenheit. Determine the possible monthly high temperature. Then interpret the solution. (Example 2)

8. Open Response Teddy has two piggy banks. The difference in the amount of money between the two banks is no more than $10. One piggy bank has $7.31 in it. Determine the possible amount of money in the other piggy bank. Then interpret the solution.

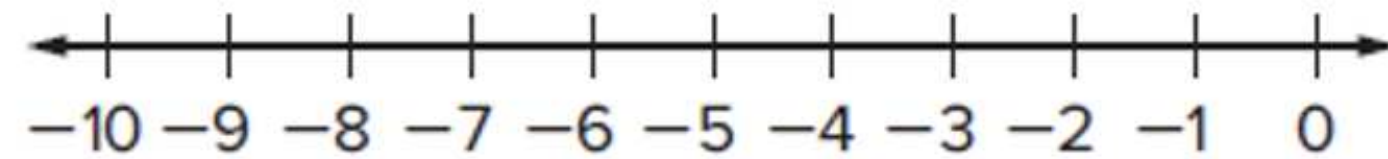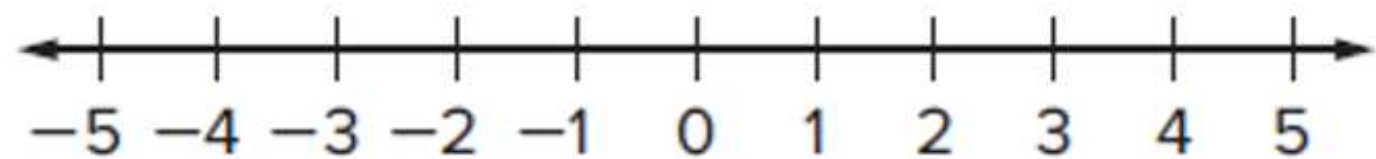| 11	Use inverse operations to solve one-step multiplication and division inequalities with negative coefficients.	1 - 8	P.No. 363

1. $-6x > 66$

2. $-12 \leq -3x$

3. $-4x \geq -36$

4. $3 > -0.4x$

11	Use inverse operations to solve one-step multiplication and division inequalities with negative coefficients.	1 - 8	P.No. 363
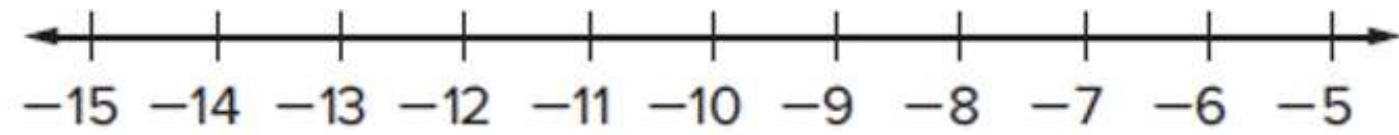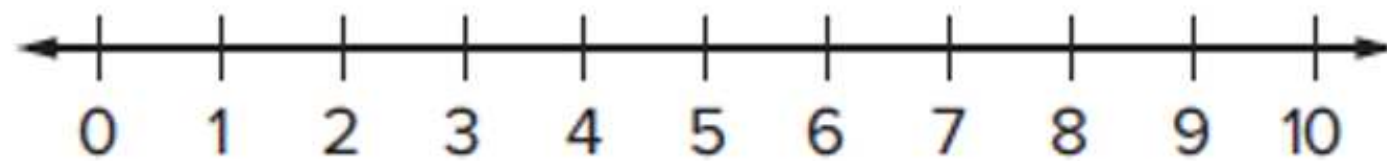
5. $-2.2x \le -6.6$

6. $\dfrac{x}{-8} > 2$
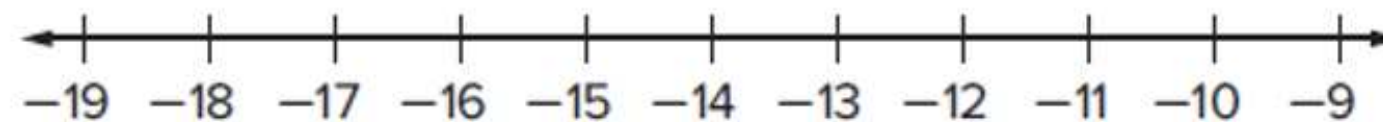
7. $\dfrac{x}{-5} \ge -3$
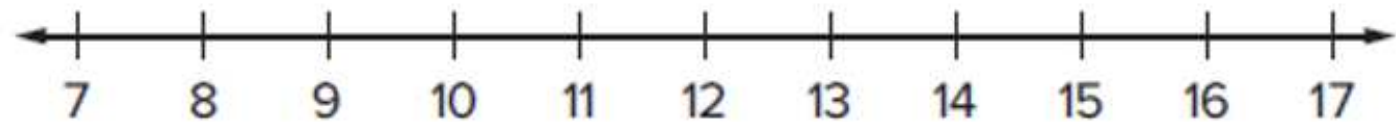
8. $\dfrac{x}{-2} < -6$
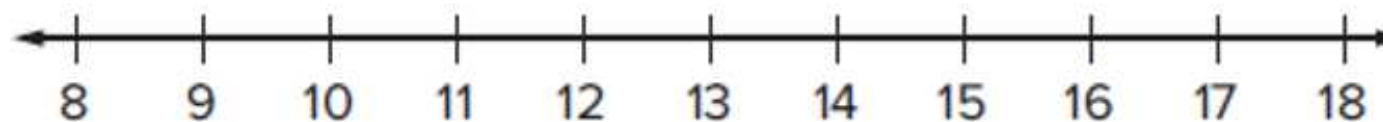
1. Hermes earns $6 an hour for babysitting. He wants to earn at least $168 for a new video game system. Determine the number of hours he must babysit to earn enough money for the video game system. Then interpret the solution. (Example 1)

2. Becky wants to buy some fish for her aquarium. She has $20 to spend and the fish cost $2.50 each. Determine how many fish Becky can afford. Then interpret the solution. (Example 1)

3. Sadie wants to make several batches of rolls. She has 13 tablespoons of yeast left in the jar and each batch of rolls takes $3\frac{1}{4}$ tablespoons. Determine the number of batches of rolls Sadie can make. Then interpret the solution. (Example 1)

4. Trini needs more than 51 cubic feet of soil to fill her raised garden. Each bag of soil contains 1.5 cubic feet. Determine how many bags of soil Trini needs. Then interpret the solution. (Example 1)

12	Write one-step multiplication and division inequalities from real-world situations and use inverse operations to solve the inequalities.	1 - 7	P.No. 371

5. A teacher is making tutus for the school play. She wants to make at least 24 tutus and needs 1.25 yards of tulle for each tutu. Determine the amount of tulle she needs to buy. Then interpret the solution. (Example 2)

6. Paul is making picture frames. He wants to make at least 8 picture frames and needs 24.5 inches of materials for each frame. Determine how much of the materials Paul should buy. Then interpret the solution. (Example 2)

7. Chase is making bookmarks. He wants to make no more than 12 bookmarks and needs 4.25 inches of fabric for each bookmark. Determine the amount of fabric he needs to buy. Then interpret the solution. (Example 2)

8. **Open Response** Mae wants to make more than 6 gift baskets for the school raffle. Each gift basket costs $15.50. Determine the amount of money she will spend to make the gift baskets. Then interpret the solution.
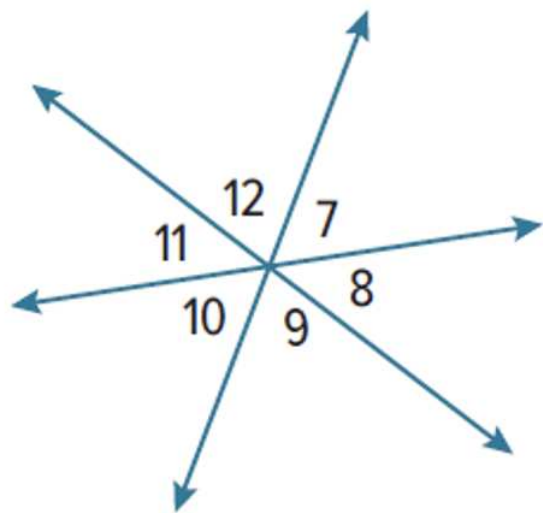
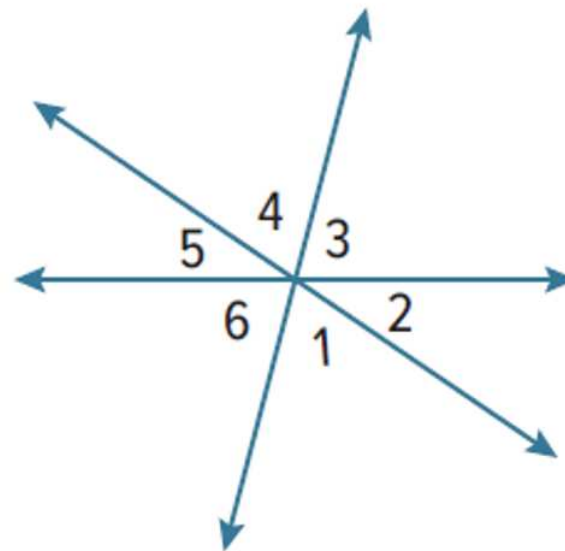**1.** Name the angle in four ways. (Example 1)
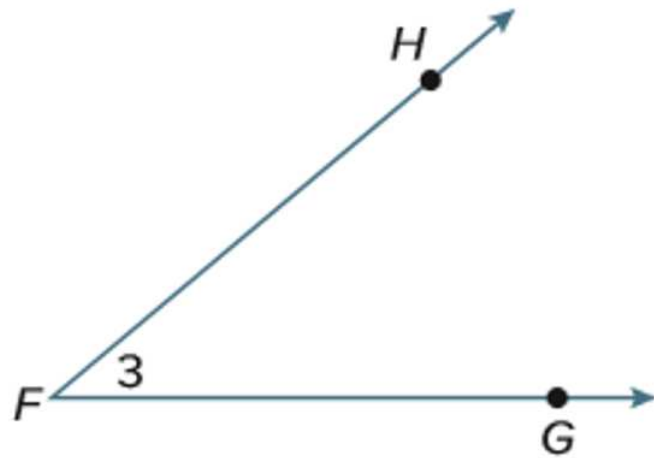
2. Name the angle in four ways. (Example 1)
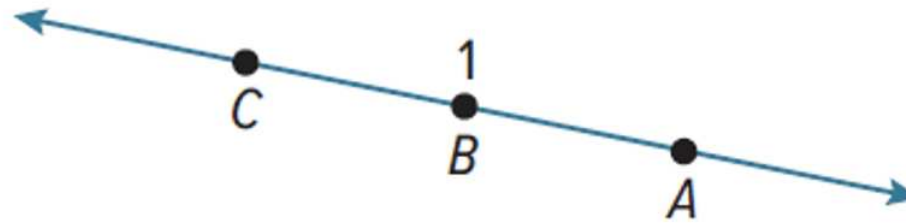
3. Refer to the diagram below. Identify three pairs of vertical angles. Name all the angles that are adjacent to ∠10. (Examples 2 and 4)
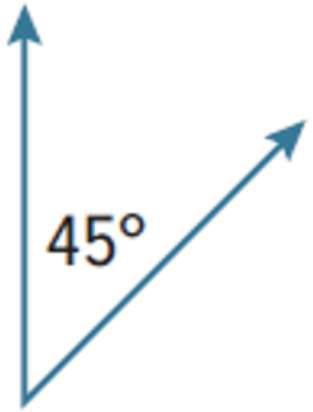

4. Identify three pairs of vertical angles. Name all the angles that are adjacent to ∠3. (Examples 2 and 4)

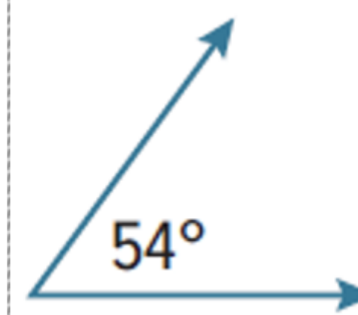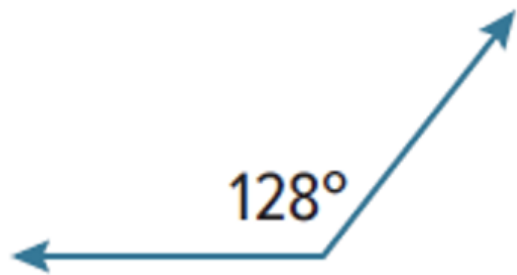**Give the measure of the angle that is complementary to the given angle.** (Example 1)

1.

45°

2.

20°

3.

54°

Give the measure of the angle that is supplementary to the given angle. (Example 1)

4.

128°

5.

160°

6.

50°

15	Classify and draw triangles, freehand, with tools, and with technology given certain conditions, such as angle measures or side lengths.	1 - 8	P.No. 421
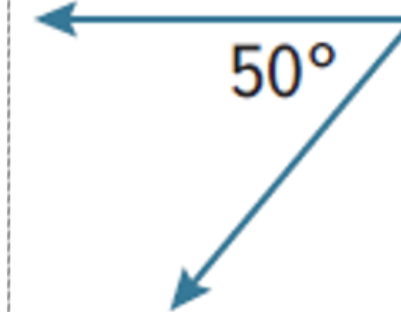
1. Draw a triangle with three acute angles and two congruent sides. Classify the triangle by its sides and angles. Then determine if these characteristics create a unique triangle or more than one triangle. (Example 1)

2. Draw a triangle with one right angle and two congruent sides. Classify the triangle by its sides and angles. Then determine if these characteristics create a unique triangle or more than one triangle. (Example 1)

3. Use a ruler and a protractor to determine whether or not it is possible to draw a triangle with a 50° angle, a 60° angle, and an 80° angle. If so, draw the triangle. If not, explain why. (Examples 2 and 3)

4. Use a ruler and a protractor to determine whether or not it is possible to draw a triangle with a 60° angle, a 60° angle, and a 60° angle. If so, draw the triangle. If not, explain why. (Examples 2 and 3)

5. Use a ruler and a protractor to determine whether or not it is possible to draw a triangle with a 6 millimeter side, an 8 millimeter side, and a 90° angle between them. If so, draw the triangle. If not, explain why. (Examples 2 and 3)

6. Use a ruler and a protractor to determine whether or not it is possible to draw a triangle with a 75° angle, a 115° angle, and a side of 4 inches between the two angles. If so, draw the triangle. If not, explain why. (Examples 2 and 3)

7. Use Web Sketchpad or other geometry software to determine whether or not it is possible to draw a triangle with side lengths of 2, 2, and 5 inches. If so, draw the triangle. If not, explain why. (Example 4)

8. Multiselect Select all of the sets of measurements that can form a triangle.

- ☐ 35°, 15°, 130°
- ☐ 90°, 3 inches, 7 inches
- ☐ 70°, 70°, 70°
- ☐ 17 inches, 8 inches, 2 inches
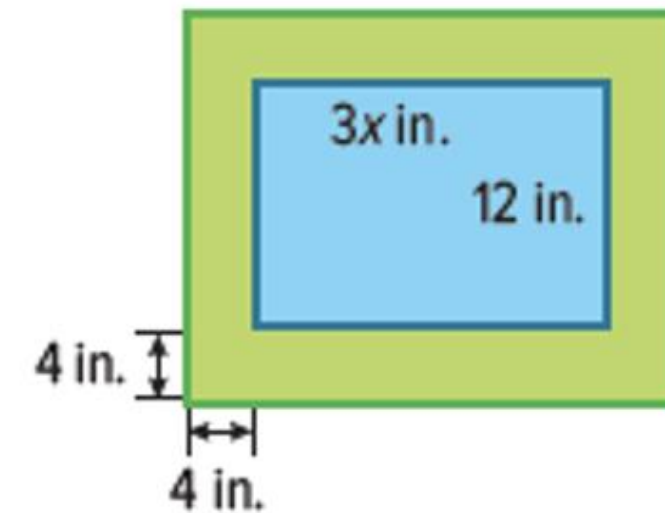- ☐ 5 inches, 6 inches, 7 inches

# Part 2

Free Response Questions

(5 questions, 6-10 marks each, Paper-Based)

14. The diagram shows a border that is 4 inches wide surrounding Annie's painting. Write an expression, in factored form, that represents the area of the border.

3x in.

12 in.

4 in.

4 in.

15. Raul's hamster's house sits in the corner of its cage as shown in the diagram. The area around the house is 5 inches wide. Write an expression, in factored form, that represents the area around the house.

5 in.

3x in.

8 in.

5 in.
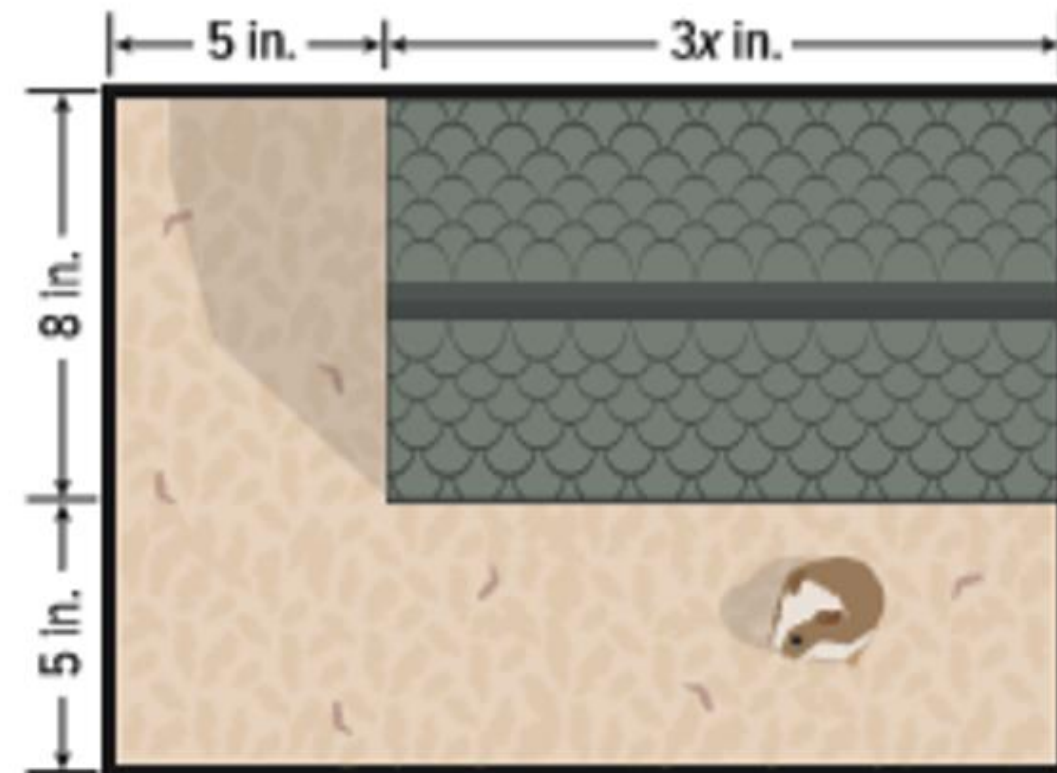
16. Create Write and simplify a linear expression with more than one operation.

17. Find the Error A student is simplifying the expression below. Find the student's error and correct it.

$$-3(x + 2) + 6x = -3x + 2 + 6x$$
$$= 3x + 2$$

18. A student said that $x + 1$ is written in simplest form. Is the student correct? Explain why or why not.

19. Persevere with Problems Write each expression in factored form.

a. $\dfrac{1}{2}x + 6$

b. $\dfrac{3}{4}x - 18$

9. Olive and Ryan have picture frames with the same perimeter. Olive's picture frame has a width 1.25 times the width of Ryan's picture frame. What is the length ℓ of Olive's picture frame?

Ryan's Picture Frame

9 in.

9 in.
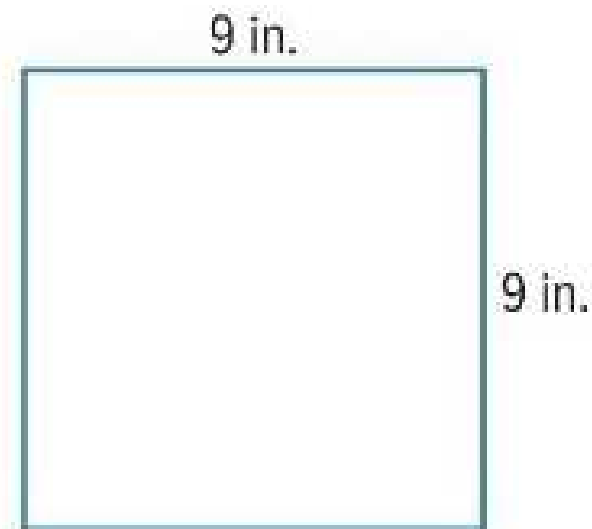
10. Becky and Lewis's hamster cages have the same perimeter. Lewis's cage has a length 0.75 times the length of Becky's cage. What is the width w of Lewis's cage?

Becky's Hamster's Cage
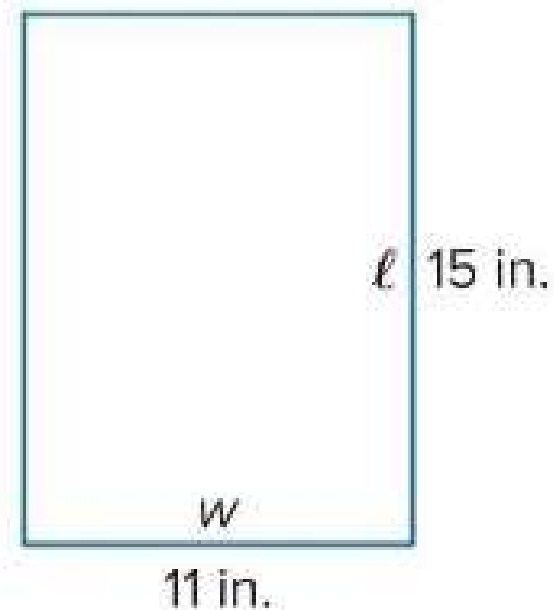
ℓ 15 in.

w

11 in.

11. Create Write a real-world problem that could be represented by the equation $12(x + 2.50) = 78$. Then solve the equation.

12. MP Persevere with Problems Keith is 5 years older than Trina. Two times the sum of their ages is 62. Write and solve an equation to find Keith's age.

13. A student solved the equation $8.9(x - 4.2) = 35.99$ and found the solution to be 22.89. Explain how you can use estimation to show that the solution is incorrect.
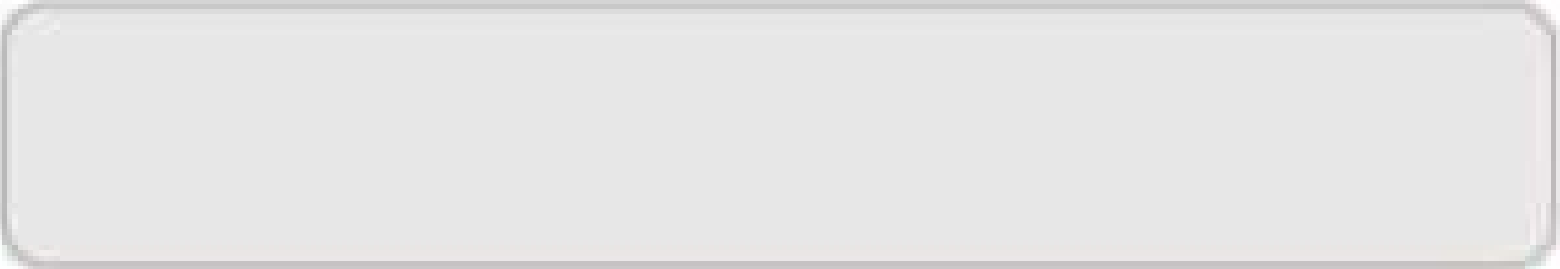
14. Create Write and solve a real-world problem that involves decimals and can be solved using an equation in the form $p(x + q) = r$.

|		7 - 10	P.No.383
18	Write two-step inequalities form real-world situations and use inverse operations to solve the inequalities.		

7. A rental company charges $15 plus $4 per hour to rent a bicycle. If Margie wants to spend no more than $27 for her rental, write and solve an inequality to determine how many hours she can rent the bicycle. Then interpret the solution. (Example 4)

8. Matilda needs at least $112 to buy a new dress. She has already saved $40. She earns $9 an hour babysitting. Write and solve an inequality to determine how many hours she will need to babysit to buy the dress. Then interpret the solution. (Example 4)

9. Douglas bought a $20 game card at a game center. The go-karts cost $3.50 each time you race. He wants to have at least $7.75 left on his card to play arcade games. Write and solve an inequality to determine how many times Douglas can race the go-karts. Then interpret the solution.

(Example 5)

10. **Open Response** Robin was given a $40 monthly allowance. She wants to go to the movies as many times as possible and have at least $12.50 left at the end of the month to go to a concert. A movie ticket costs $5. Write and solve an inequality to determine how many times Robin can go to the movies this month. Then interpret the solution.

5. Write and solve an equation to find the value of x. (Example 3)
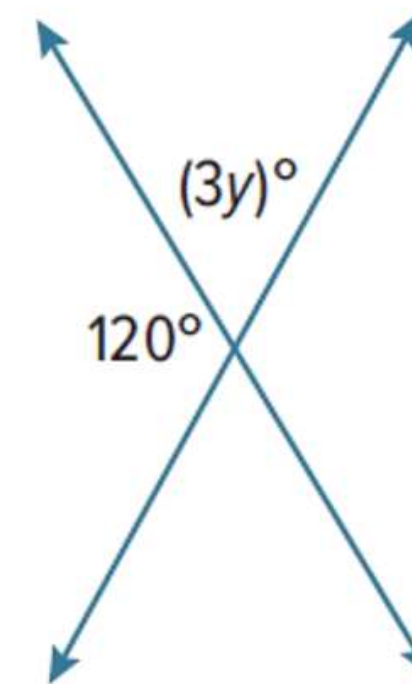
115°

$(2x + 5)°$
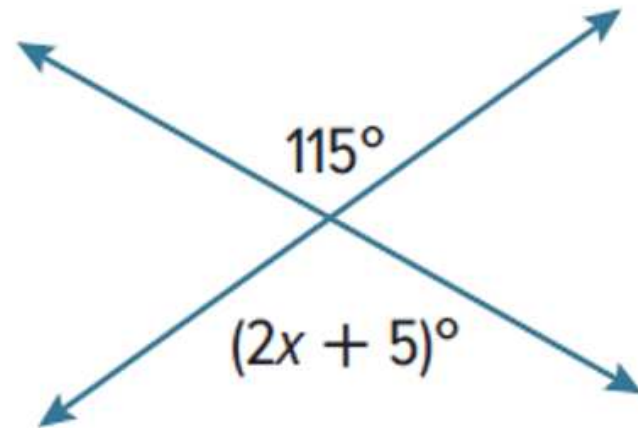
6. Write and solve an equation to find the value of x. (Example 3)

120° $(2x)°$
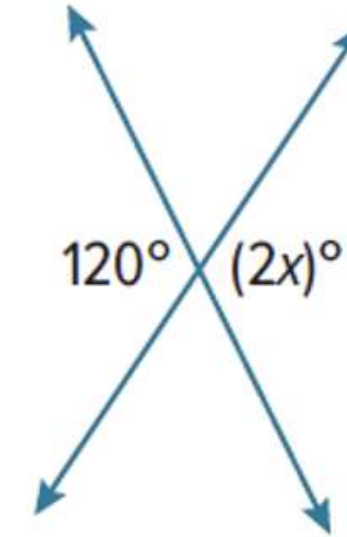
7. Write and solve an equation to find the value of x. (Example 5)
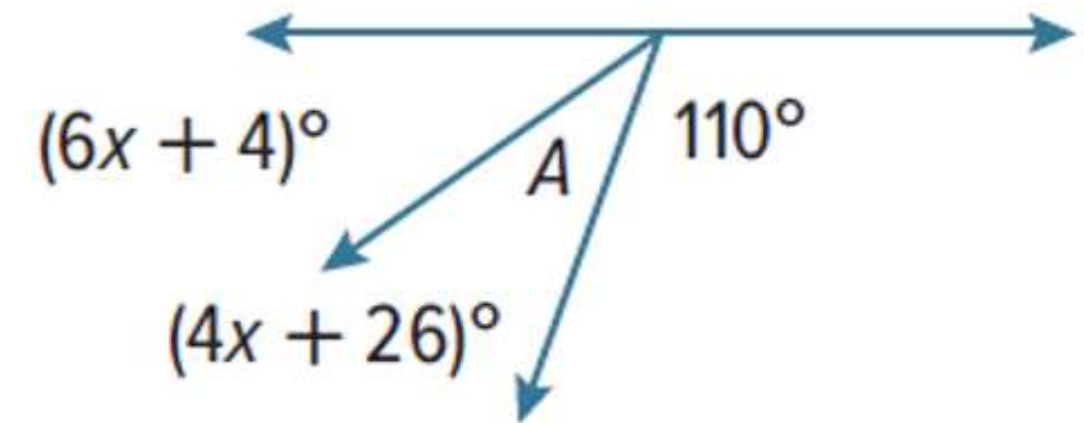
M

$(5x)°$

P

95°

L

O
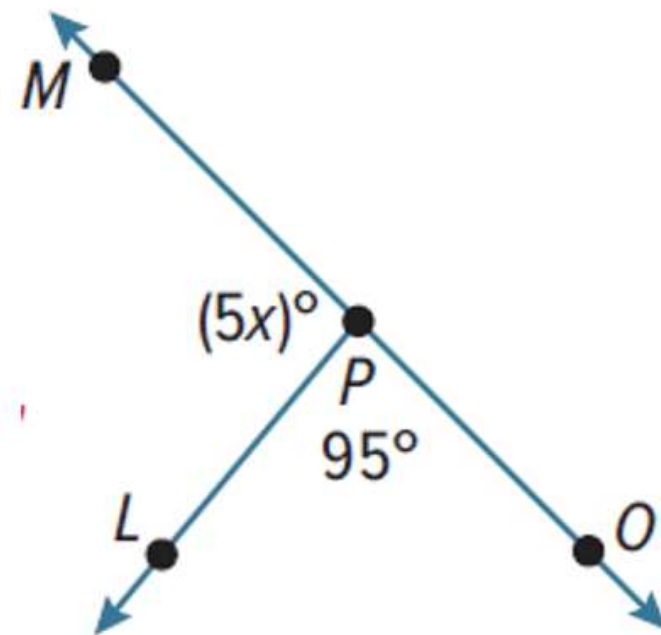
8. **Open Response** Write and solve an equation to find the value of y.

$(3y)°$

120°

9. Levi was designing a kite. He needs to determine the measure of ∠A before cutting the fabric. What is the measure of angle A?
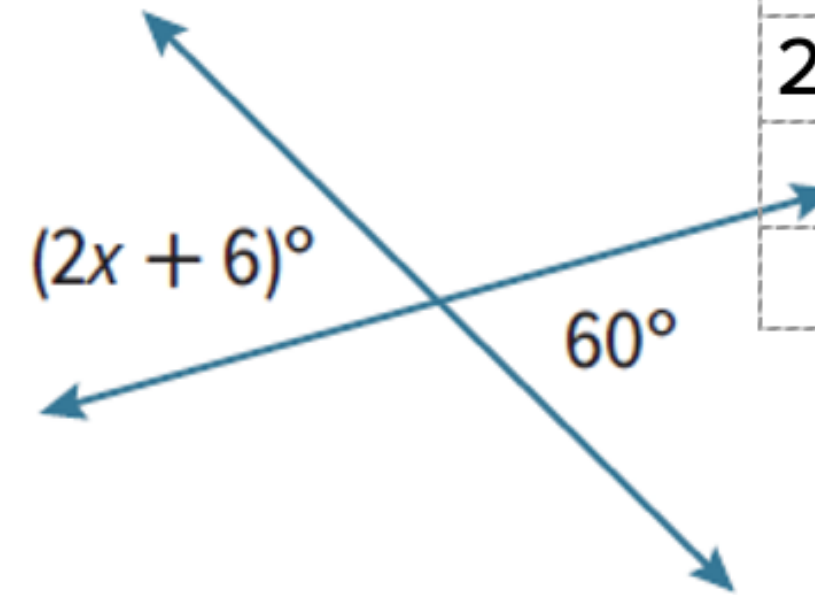
$(6x + 4)°$

$110°$

A

$(4x + 26)°$

10. Jess was drawing a map of her neighborhood. What is the measure of the angle of the intersection between Derby Drive and Rosemont?

$(3x + 15)°$

Rosemont

$103°$

$(x + 10)°$

Derby Drive
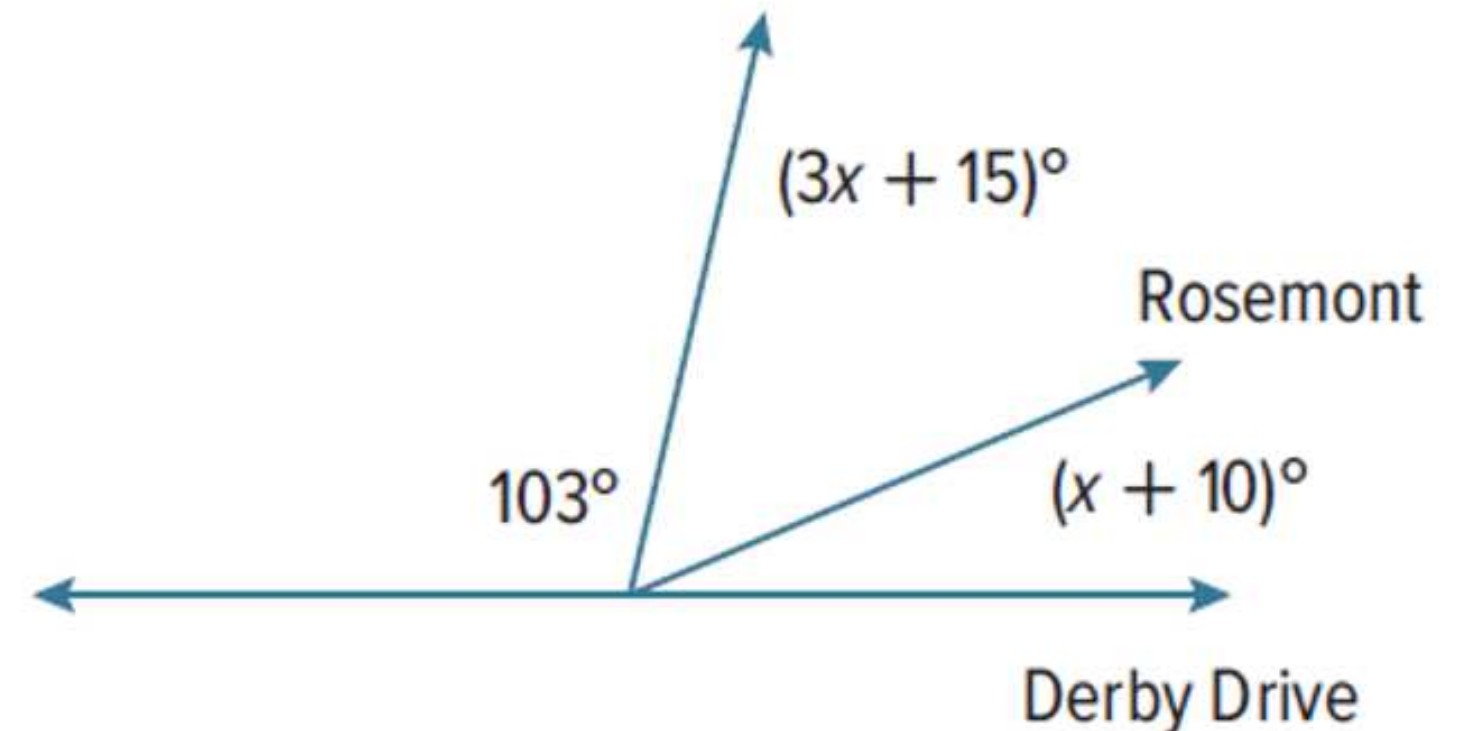
11. Draw and label a pair of vertical angles.

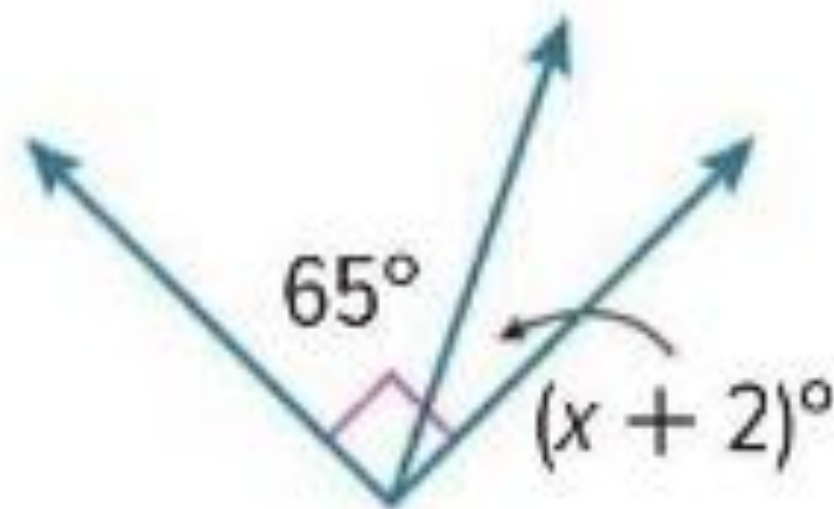**12. Find the Error** A student was finding the value of x. Identify the student's error and correct it.

$(2x + 6)°$

$60°$

$2x + 6 + 60$	=
$2x + 66$	=
$2x$	=
x	$= 57$

Write and solve an equation to find the value of *x* in each figure. (Examples 2 and 4)

7.

$22°$

$4x°$

8.

$65°$

$(x + 2)°$

9.

$(x - 7)°$

$43°$

20	Use complementary and supplementary angles to find the unknown angle measures.	7 - 12 Q. No. 12	P.No. 411 P.No. 422

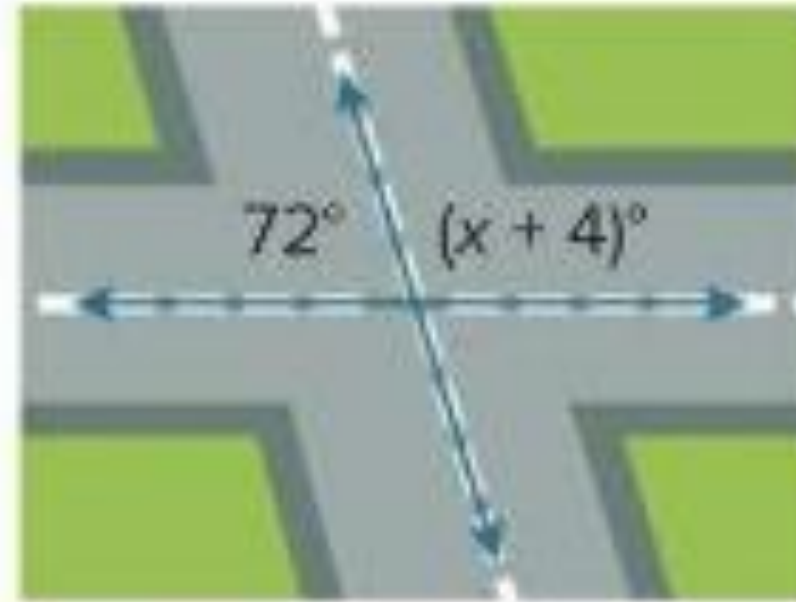**10.**
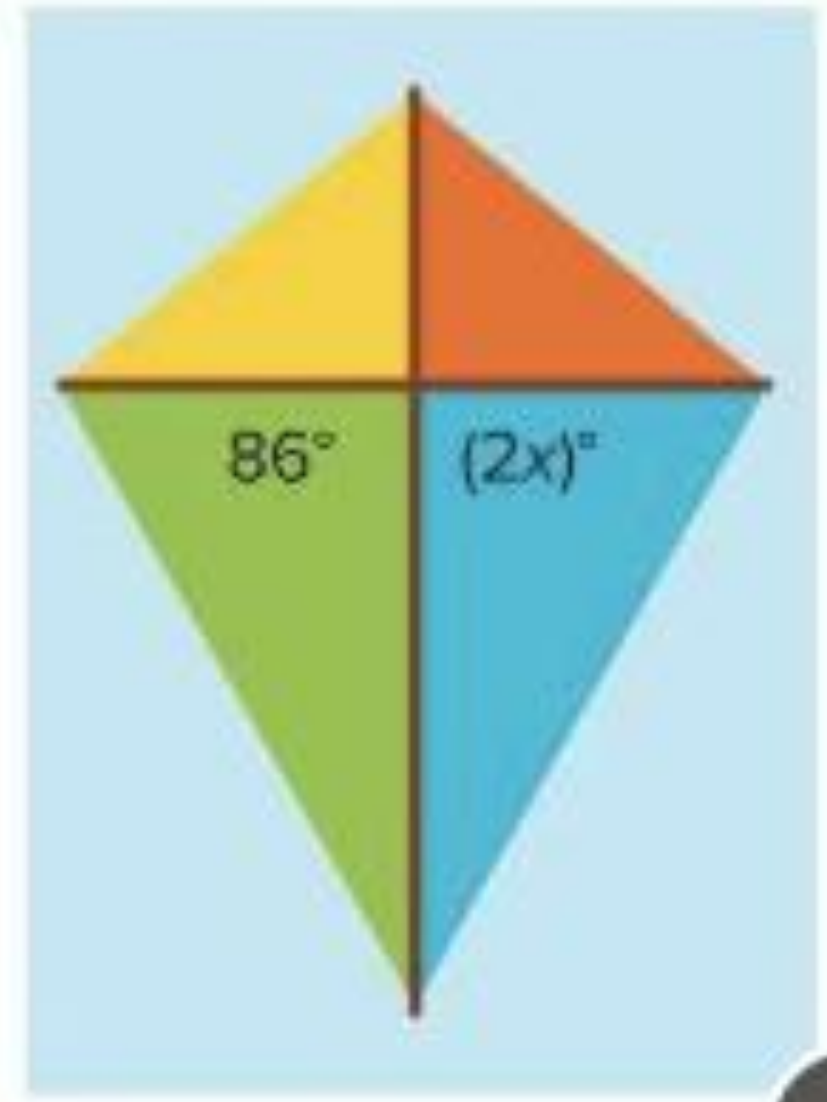

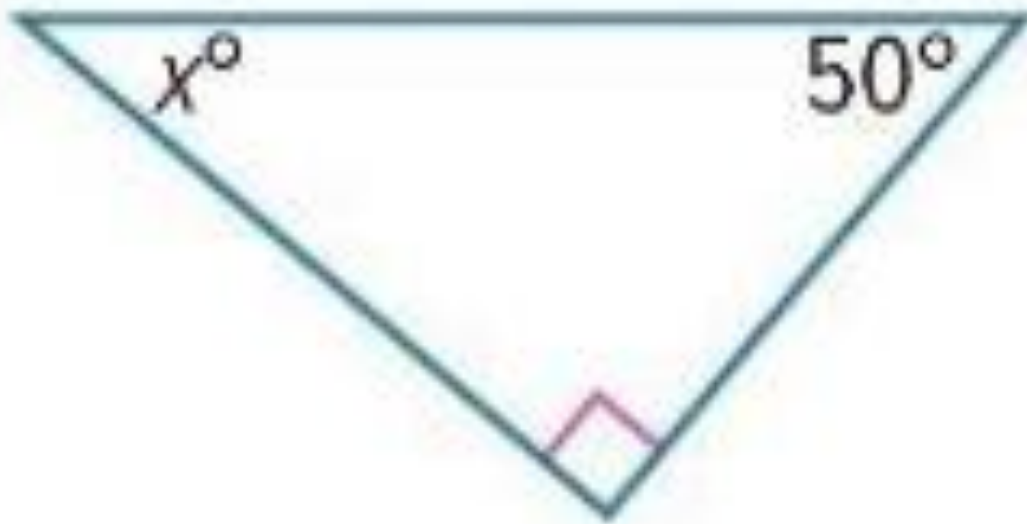
110°

7x°

11.

72°   (x + 4)°

12.

86°   (2x)°
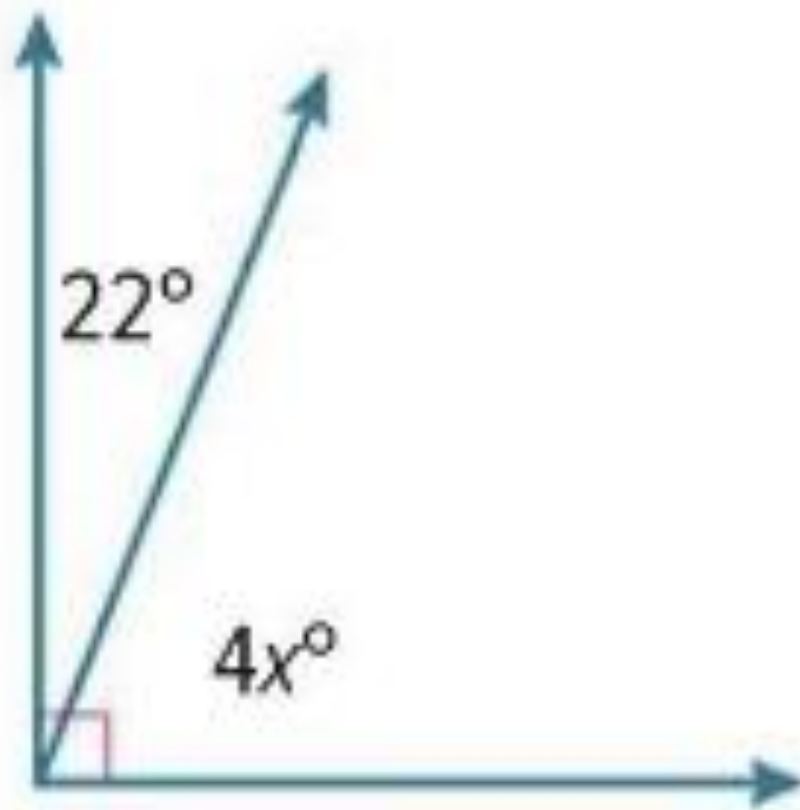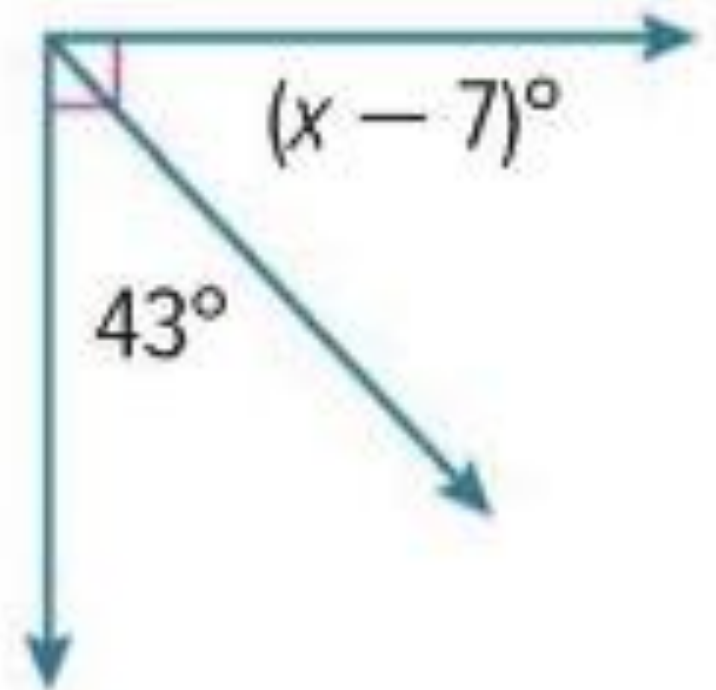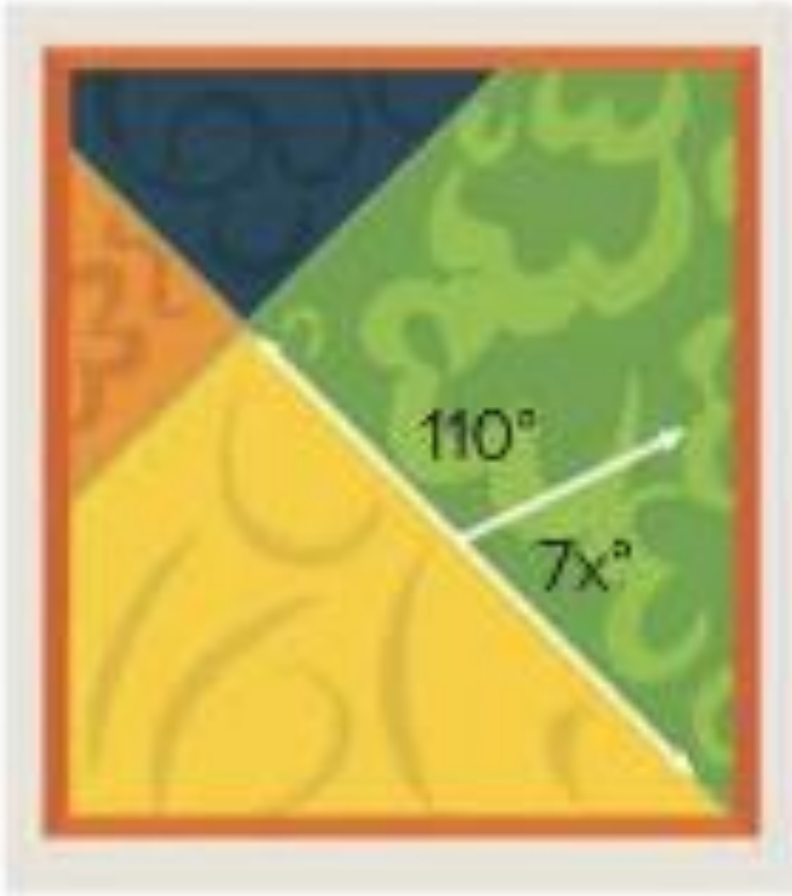
12. Find the value of x in the diagram. Then,
find the supplement of the missing angle.

THE END

Good Luck ☺

Q

A