Formulas

Perimeter	square	$P = 4s$
	rectangle	$P = 2\ell + 2w$ or $P = 2(\ell + w)$
Circumference	circle	$C = 2\pi r$ or $C = \pi d$
Area	square	$A = s^2$
	rectangle	$A = \ell w$
	parallelogram	$A = bh$
	triangle	$A = \frac{1}{2}bh$
	trapezoid	$A = \frac{1}{2}h(b_1 + b_2)$
	circle	$A = \pi r^2$
Surface Area	cube	$S = 6s^2$
	rectangular prism	$S = 2\ell w + 2\ell h + 2wh$
	cylinder	$S = 2\pi rh + 2\pi r^2$
Volume	cube	$V = s^3$
	prism	$V = \ell wh$ or Bh
	cylinder	$V = \pi r^2 h$ or Bh
	pyramid	$V = \frac{1}{3}Bh$
	cone	$V = \frac{1}{3}\pi r^2 h$ or $\frac{1}{3}Bh$
Pythagorean Theorem	right triangle	$a^2 + b^2 = c^2$
Temperature	Fahrenheit to Celsius	$C = \frac{5}{9}(F - 32)$
	Celsius to Fahrenheit	$F = \frac{9}{5}C + 32$

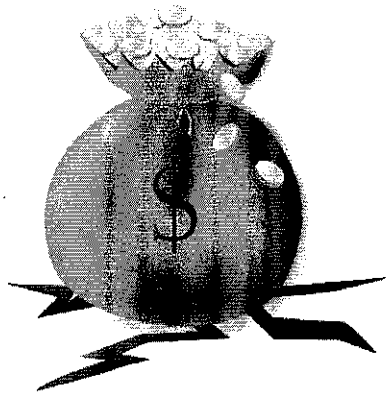
Measurement Conversions

Length	1 kilometer (km) = 1,000 meters (m) 1 meter = 100 centimeters (cm) 1 centimeter = 10 millimeters (mm)	1 foot (ft) = 12 inches (in.) 1 yard (yd) = 3 feet or 36 inches 1 mile (mi) = 1,760 yards or 5,280 feet
Volume and Capacity	1 liter (L) = 1,000 milliliters (mL) 1 kiloliter (kL) = 1,000 liters	1 cup (c) = 8 fluid ounces (fl oz) 1 pint (pt) = 2 cups 1 quart (qt) = 2 pints 1 gallon (gal) = 4 quarts
Weight and Mass	1 kilogram (kg) = 1,000 grams (g) 1 gram = 1,000 milligrams (mg) 1 metric ton = 1,000 kilograms	1 pound (lb) = 16 ounces (oz) 1 ton (T) = 2,000 pounds
Time	1 minute (min) = 60 seconds (s) 1 hour (h) = 60 minutes 1 day (d) = 24 hours	1 week (wk) = 7 days 1 year (yr) = 12 months (mo) or 52 weeks or 365 days 1 leap year = 366 days
Metric to Customary	1 meter ≈ 39.37 inches 1 kilometer ≈ 0.62 mile 1 centimeter ≈ 0.39 inch	1 kilogram ≈ 2.2 pounds 1 gram ≈ 0.035 ounce 1 liter ≈ 1.057 quarts

Packet #6

C.S.I. MATH

Saint Patrick's Day



WHO STOLE THE LEPRECHAUN'S GOLD?

TEACHER NOTES

#6

Firstly, a big THANK YOU for purchasing this product. Please check out my store for more products and follow me for updates.

These CSI projects are a great way to capture your students' interest in math. This activity is also great to use as a fun Saint Patrick's Day math activity.

Included in this activity you will find:

Four math clues which your students will need to solve in order to uncover who stole the leprechaun's gold . The clues are:

Hidden Message: Students use their basic facts, mainly multiplication, in order to uncover a hidden message left by the thief.
The Getaway: Students calculate the speed of each suspect's mode of transport.
Room for Gold? – Students calculate the volume of each suspect's safe to determine if they would have had room for the gold.
Who Needs the Money? – Students add numbers with decimals to determine how much money each suspect has.

After the students have found out who stole the gold pot they can complete the last activity to find out where the next rainbow will form. To make this activity shorter you don't have to include this sheet.

Two early finisher activities are also included. Keep these on hand to give to your students who finish early. One of the extra activities is a short writing activity and the other is a multiplication maze.

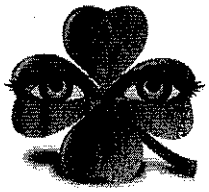
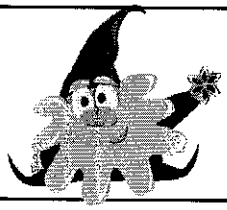
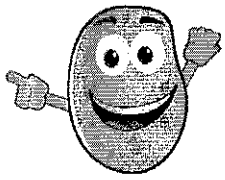
CRIME SCENE INVESTIGATION

#6

Once upon a time in the great land of Ireland there lived a lucky leprechaun named Larry. Lucky Larry lived a lovely life, laughing often with the loud but loveable children and laymen of Lismore, which was the nearby Irish village. One day as Larry was laying lazily near a lake, a lovely large rainbow appeared. He ran to the end of the rainbow and found a large pot of gold. He excitedly ran back the village to share the news with everyone. However, when he arrived he was instead greeted with a grim discovery: the local town hall had burned down!

Larry went home feeling sad for the people of Lismore. When he got home, he locked his pot of gold away in his safe. During the night he decided he would use his pot of gold to fund the building of a new town hall for the people of Lismore. In the morning he ran to his safe so he could get the pot of gold and give it to the people. When he got to his safe, however, he couldn't find his gold; someone had stolen it!

The village and nearby forest were searched, and the most likely suspects were gathered up and are shown below. Use the evidence on the following pages to find out who stole the gold.

			
Magic Shamrock *A shamrock is a young sprig of clover and is a national symbol of Ireland.*	**Irish Maiden** *The beautiful Irish maidens are said to be smart, lovely, witty and charming.*	**Druid** *In pre-Christian times the Druids were members of the high-ranking professional class.*	**Saint Patrick** *Saint Patrick lived in the 5th Century and is the patron saint of Ireland. He is regarded by many as the founder of Christianity in Ireland.*
			
Irish Dragon *There are stories of mythical dragons in Ireland both during and before it became a Christian country.*	**Clurichaun** *A Clurichaun was an Irish elf who looked like a tiny old man and loved to play practical jokes.*	**Harpist** *The Harpist was an important part of Ireland's past. Ireland's national code of arms is a golden harp.*	**Potato Head** *The potato has long been a staple food in Ireland. In the 1850s a blight affected the growth of the potatoes and caused a great famine.*

FOUR CLUES HAVE BEEN FOUND, WHICH ARE ON THE FOLLOWING PAGES.

AFTER YOU HAVE SOLVED EACH CLUE, COME BACK HERE TO CROSS SUSPECTS OFF UNTIL YOU HAVE FOUND OUT WHO STOLE THE POT OF GOLD.

HIDDEN MESSAGE

A note was found left hidden in the safe with an encrypted code written on it. Once cracked, this message will allow you to eliminate one person from the suspect list.

Solve the problems, then fill in the message spaces with the letters that match the correct answers to read the secret message.

Hint: When a number is not known it can be replaced with a letter.

For example. There were 3 lollipops, now there is only one.
In an equation it looks like this: 1+L = 3 ⟶ 1+2 =3 ⟶ L=2
L can be used to show the unknown number lollipops that are gone.

Another example. 2xC = 10 ⟶ 2x5 =10 ⟶ C=5

A 3x5 = A A =	**B** 3xB = 6 B =	**C** C+20 =33 C =	**D** 22–D =15 D =	**E** 5x5 = E E =	**F** 6xF = 54 F =	**G** 3xG = 9 G =
H 11+15 =H H =	**I** 34 - I = 24 I =	**J** 9x9 = J J =	**K** 13+16 = K K =	**L** 4x4 = L L =	**M** 4x7 = M M =	**N** 42+N =56 N =
O 7x5 = O O =	**P** 8xP = 40 P =	**Q** 12+Q =52 Q =	**R** 9+R = 20 R =	**S** 4x3 = S S =	**T** 8x7 = T T =	**U** 9x3 = U U =
V 24+42 =V V =	**W** 4xW = 24 W =	**X** 86-21 =X X =	**Y** 8x6 = Y Y =	**Z** 31+Z = 53 Z =		

10 26 15 66 25 12 56 35 16 25 14 48 35 27 11

3 35 16 7 , 12 35 11 11 48 . 5 16 25 15 12 25

9 35 11 3 10 66 25 28 25 . 5 16 25 15 12 25

56 25 16 16 12 15 10 14 56 5 15 56 11 10 13 29

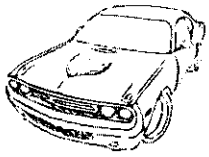
56 35 9 35 11 3 10 66 25 28 48 12 10 14 .

You read the deciphered note to the leprechaun and he sighed. "I'm not sure yet if I can forgive him. At least the thief let us know of one person who we can cross off the suspect list."

CROSS THIS PERSON OFF YOUR SUSPECT LIST.

THE GETAWAY

A witness was found and said that he saw an object, perhaps a vehicle or animal, moving at a very high speed away from the leprechaun's house on the night of the robbery. It was a dark foggy night, however, so he didn't get a good look at what it was; he just knew it was fast. All the suspects were questioned about how they travelled. The two suspects whose modes of transport are the slowest can be crossed off the suspect list.

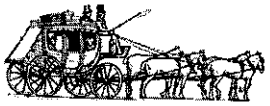


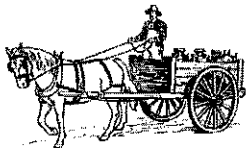
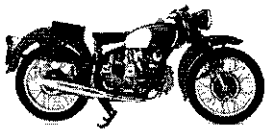
The speed of a vehicle, animal, or object can be calculated by dividing how far it travelled by how much time it took to travel the distance.

Distance = 50 meters
Time = 5 seconds

Speed = Distance ÷ Time
Speed = 50 ÷ 5
Speed = 10 m/s (meters per second)

Calculate the speed of each suspect's mode of transport.
Cross the TWO suspects with the SLOWEST mode of transport off the suspect list.

Magic Shamrock	Irish Maiden	Druid	Saint Patrick
			
Distance travelled =100m Time: 20 seconds Speed = 100 ÷ 20 Speed =	Distance travelled =24m Time: 3 seconds Speed = 24 ÷ 3 Speed =	Distance travelled =63m Time: 9 seconds Speed = 63 ÷ 9 Speed =	Distance travelled =36m Time: 4 seconds Speed =

Irish Dragon	Clurichaun	Harpist	Potato Head
			
Distance travelled =120m Time: 10 seconds Speed =	Distance travelled =45m Time: 9 seconds Speed =	Distance travelled =56m Time: 8 seconds Speed =	Distance travelled =40m Time: 2 seconds Speed =

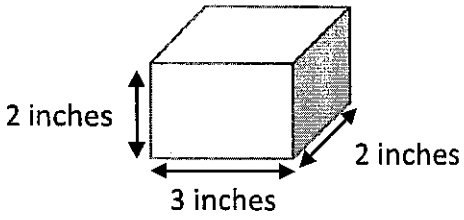
Cross the TWO suspects with the slowest cars off the suspect list

ROOM FOR THE GOLD?

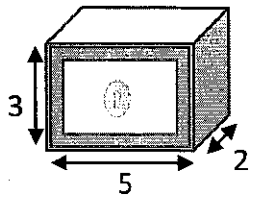
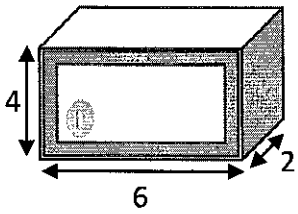
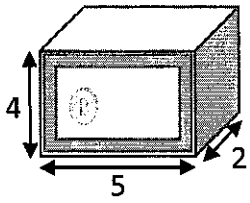
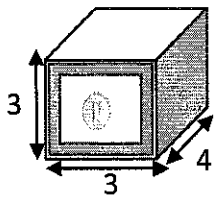
#6

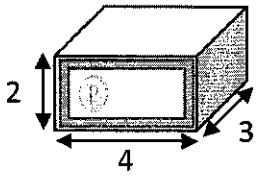
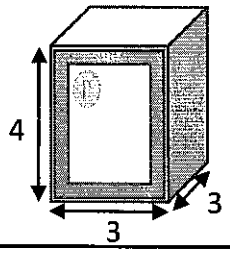
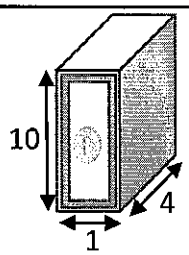
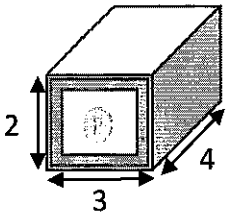
A tip-off was received that said that after the gold was stolen it was placed in the thief's safe. The safes of all the suspects were searched but the gold was not found, so the thief must have moved it somewhere else. The large amount of gold would have taken up a lot of space, however, and the smallest safes wouldn't have been able to fit all the gold.

Calculate the volume of each suspect's safe and cross the TWO suspects who have the safes with the SMALLEST volume off the suspect list.



To Calculate Volume = height x width x length
e.g., 2 inches x 3 inches x 2 inches
= 12 inches^3

Magic Shamrock	Irish Maiden	Druid	Saint Patrick
			
Volume= height x width x length Volume = 3 x 5 x 2 Volume =	Volume= height x width x length Volume = 6 x 4 x 2 Volume =	Volume =	Volume =

Irish Dragon	Clurichaun	Harpist	Potato Head
			
Volume =	Volume =	Volume =	Volume =

CROSS THE TWO SUSPECTS WITH THE SMALLEST SAFES OFF THE SUSPECT LIST.

WHO NEEDS THE MONEY?

The night before the pot of gold was stolen, a man reported hearing hushed whispers in a dark alleyway. One of the voices said, "I really need some money; some gold coins would be nice. I don't have much and would be willing to steal to get some. Do you know of someone who has a big pot of gold I could take?"

This means that whoever stole the gold couldn't have had much money. The TWO suspects who have the MOST amount of money can be crossed off the suspect list, as they would not have needed to steal the gold.

Work out the total amount of money each suspect has.
Cross off the TWO suspects who have the MOST amount of money.

	Gold coins in Pot	Money in Bank	Cash in Safe	Total money
Magic Shamrock	$23	$12.50	$36.40	
Irish Maiden	$42	$9.70	$15.10	
Druid	$36	$21.20	$32.60	
Saint Patrick	$16	$32.30	$22.40	
Celtic Dragon	$35	$23.70	$21.10	
Clurichaun	$33	$21.20	$32.50	
Harpist	$31	$44.50	$22.20	
Potato Head	$21	$24.60	$40.10	

Once solved, this should only leave one person on your suspect list.

The thief was the: _____

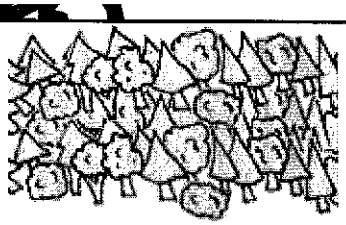
RAINBOW MAGIC

#6

Great job in helping Larry find the pot of gold! He now needs to return it to the end of the rainbow, so it can be returned to the other side and be refilled with gold for someone else.
The leprechaun has a special power which can help him find the end of the rainbow. Leprechauns look for magic Irish symbols hidden throughout the land. Each symbol has a given amount of rainbow magic. The place which has the largest amount of rainbow magic will be where the next rainbow will form. Help Larry find out where the next rainbow will form so he can take the pot there.

Tri Star	Quad Star	Quint Star	Celtic Charm
 3 Rainbow Points	 4 Rainbow Points	 5 Rainbow Points	 6 Rainbow Points

Calculate how many rainbow points each region of the land has. The place with the largest amount of points is where the next rainbow will form.
E.g., 5 Tri Stars = 3 points x 5 = 15 rainbow points.



Forest:

4 Tri Stars 4x3 =
6 Quint Stars 6 x 5 =

Total =

Village:

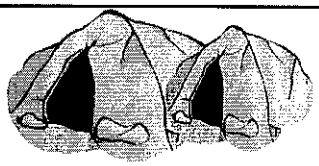
5 Quad Stars
3 Celtic Charms

Total =

Lake:

3 Tri Stars
3 Quad Stars
2 Celtic Charms

Total =



Mountain Caves:

7 Quad Stars
3 Quint Stars
1 Celtic Charm

Total =

Farm:

8 Tri Stars
1 Quad Star
7 Celtic Charms

Total =

Sea:

2 Tri Stars
3 Quad Stars
4 Quint Stars
5 Celtic Charms

Total =

Place where the next rainbow will form: _____

OVER THE RAINBOW

#6

Larry the leprechaun is most grateful for your help in finding the gold. He gives the gold to the village people and they rejoice at now being able to rebuild their town hall. Larry then journeys to the spot where the end of the rainbow will next form so he can return the now-empty pot.
When he arrives at the spot, he notices a chill wind start to blow, and before long wind is gusting all around Larry and he is lifted high up into the sky. Larry gasps when he opens his eyes; he has been pulled to the other side of the rainbow!

Write what happens to Larry on the other side of the rainbow. What does he do or see?

Packet #7

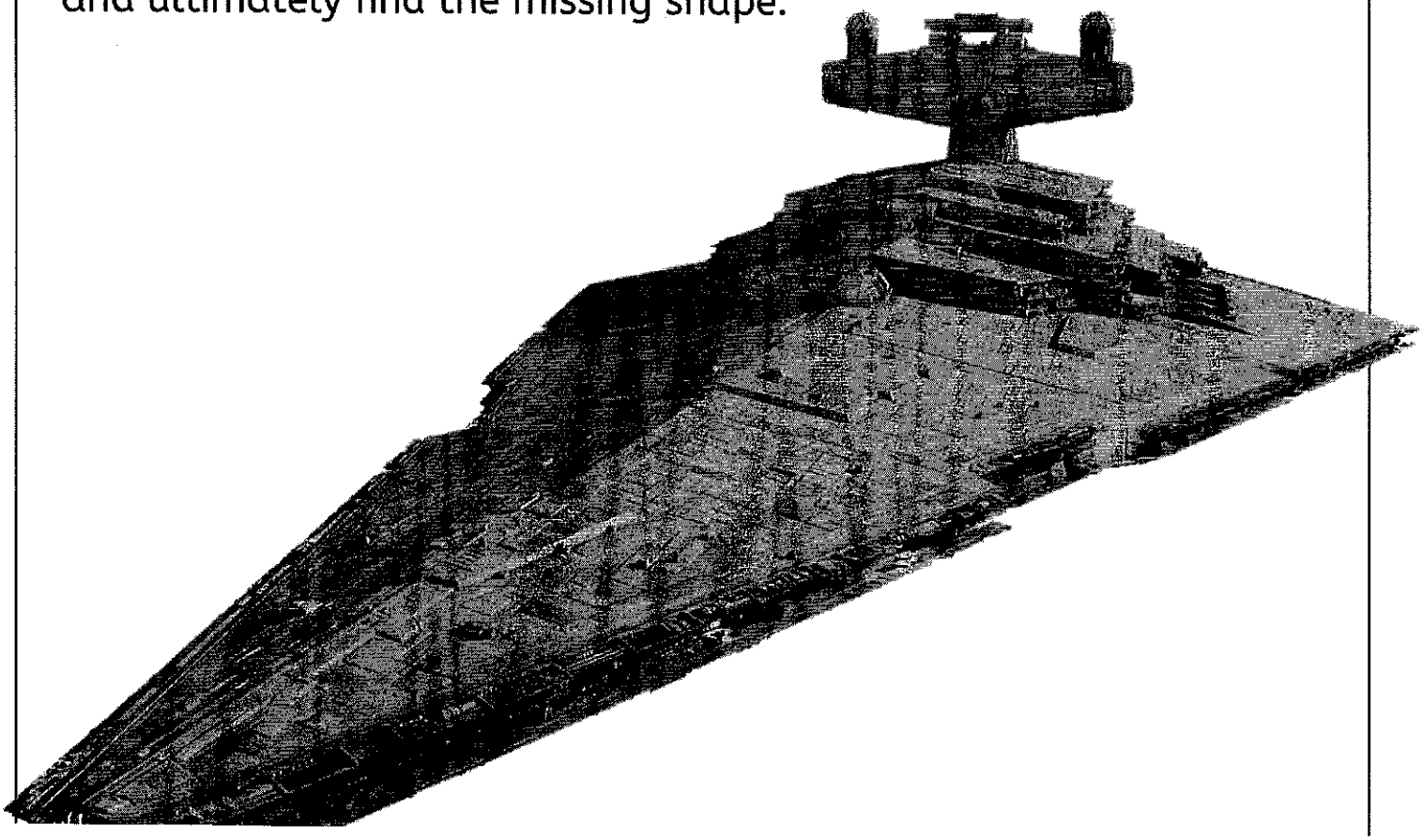
STAR GEOMETRY WARS

Teachers pay Teachers Kiwiland

Geometry can be a violent activity. If you use the wrong shapes for the wrong job it's a disaster. If you miscalculate the angles then someone is going to be upset. Most importantly though you have to always remember to never ever call a shape by the wrong name.

This is how the original Geometry War started. Some poor student didn't know their shapes and then an argument started between the classroom shapes. It soon spread to a debate with the shapes in the playground and before long the whole town was involved.

And now a shape has been kidnapped. Work through the problems to solve the clues for who has kidnapped the shape and ultimately find the missing shape.



STAR GEOMETRY WARS

#7

Teachers pay Teachers Kiwiland

The Suspects

Use this chart to mark off the innocent suspects. .

Name	Jedi or Sith	Planet	Color of Lightsaber	Droid Partner	Power	Clue
Llewas Dalledos	Jedi	Hermes	Red	R2-D2	Telekinesis	
Zaimur Glopio	Sith	Nimiset	Blue	C-3PO	Mind Control	
Dhirh Martano	Sith	Nimiset	Red	AZI-3	Telekinesis	
Keylara Duann	Jedi	Keziah	Green	2-1B	Telekinesis	
Milbin Renning	Jedi	Hermes	Blue	AZI-3	Telekinesis	
Igniv Masha	Sith	Nimiset	Blue	R2-D2	Mind Control	
Ta Draav	Sith	Hermes	Red	AZI-3	Mind Control	
Kangrang Dane	Jedi	Keziah	Blue	C-3PO	Telekinesis	
Nataya Skyblade	Sith	Keziah	Red	R2-D2	Mind Control	
Raoul Silth	Sith	Keziah	Red	AZI-3	Telekinesis	
Essia Shinte	Sith	Nimiset	Red	R2-D2	Mind Control	
Kaz Laatl	Sith	Keziah	Blue	R2-D2	Mind Control	
Gunther Colton	Jedi	Nimiset	Blue	AZI-3	Telekinesis	
Jake Scorpio	Sith	Nimiset	Red	R2-D2	Mind Control	

STAR GEOMETRY WARS

#7

Clue One:

Is the suspect a Jedi or a Sith? Discover the answer by examining the problems below. Put a tick in the corresponding box if either the perimeter, area, or both answers / statements are correct. Tally up the correct amount of ticks to uncover the clue. If the **perimeter has more ticks they are a Sith**, if **area has more ticks then they are a Jedi**.

		Perimeter Tick if correct	Area Tick if correct
1	A football field at the park down the street is in the shape of a rectangle. Two sides measure 100 yards, and the other two sides measure 50 yards. The perimeter is 400 yards and the area is 5000 yards^2.		
2	The gazebo in Peter's backyard is in the shape of a square. Each side of the square measures 4 feet. The perimeter is 16 feet and the area is 16 feet^2.		
3	You measure a school book and it is 10 inches on one side and 5 inches on the other side. The perimeter is 15 inches and the area is 50 inches^2.		
4	A rug covers the floor in your bedroom. It is 7 feet by 5 feet. The perimeter of this rug is 24 feet and the area is 30 feet^2.		
5	For a school project you need to measure the top of your school table. It is 3 feet by 2 feet. The area of the table is 5 feet^2 and the perimeter is 10 feet.		
	Total ticks		

Write below if the suspect is a Jedi or a Sith.

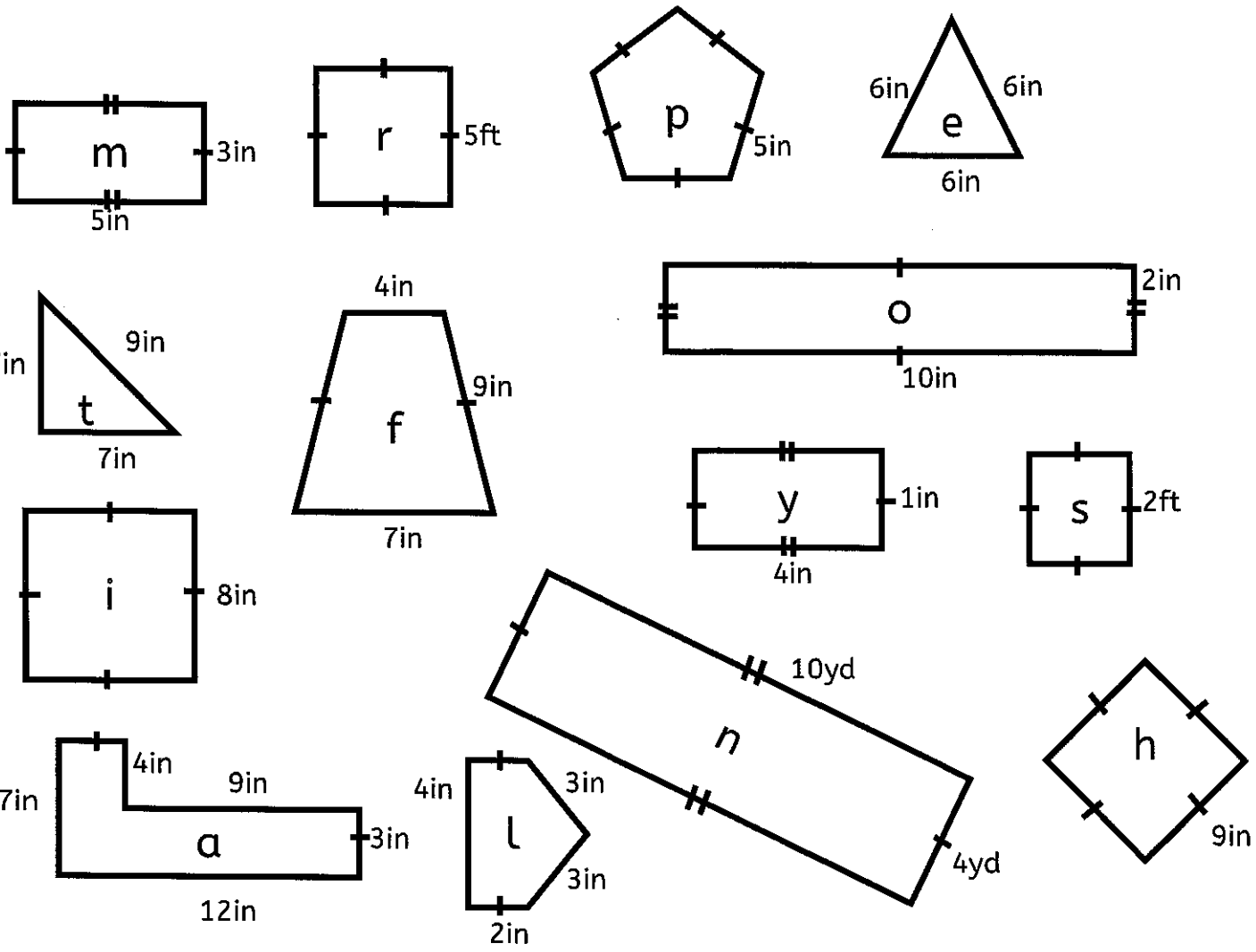
#7

STAR GEOMETRY WARS

Teachers pay Teachers Kiwiland

Clue Two:

What planet is the kidnapper from? Discover the answer by examining the problems below. Work out the perimeter of each shape and use your answer to solve the code at the bottom.



23	36	18	10

38	20	18

29	20	24	16

25	14	38	28	18	23

28	32	16	32	8	18	23

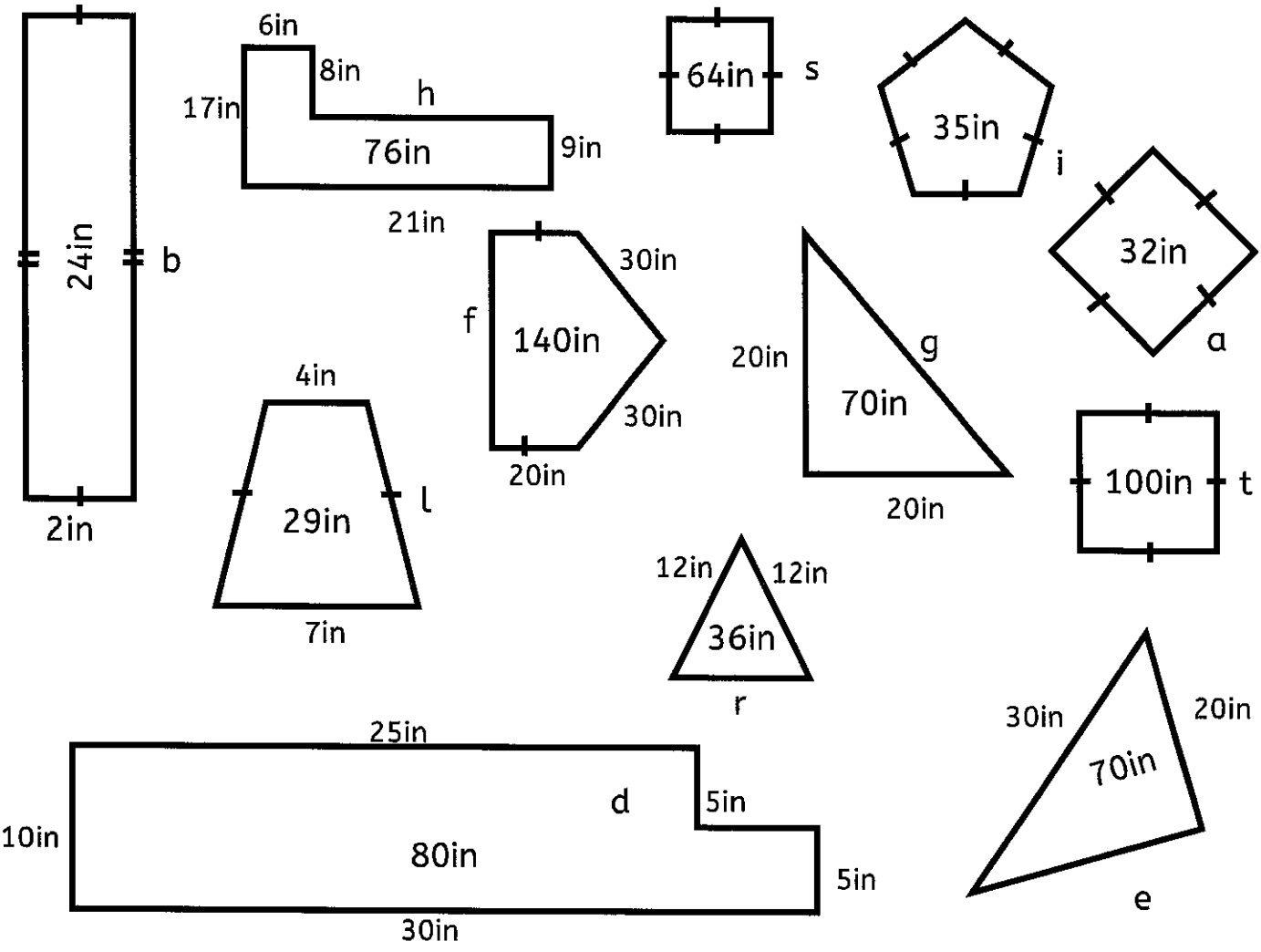
STAR GEOMETRY WARS

#7

Teachers pay Teachers Kiwiland

Clue Three:

What color is the lightsaber? Discover the answer by examining the problems below. Using the perimeter of the shape, work out the missing length of the shape to reveal the number and letter for the code at the bottom.



25	15	20

9	7	30	15	25	16	8	10	20	12

40	9	8	16	15	20	16

12	20	5

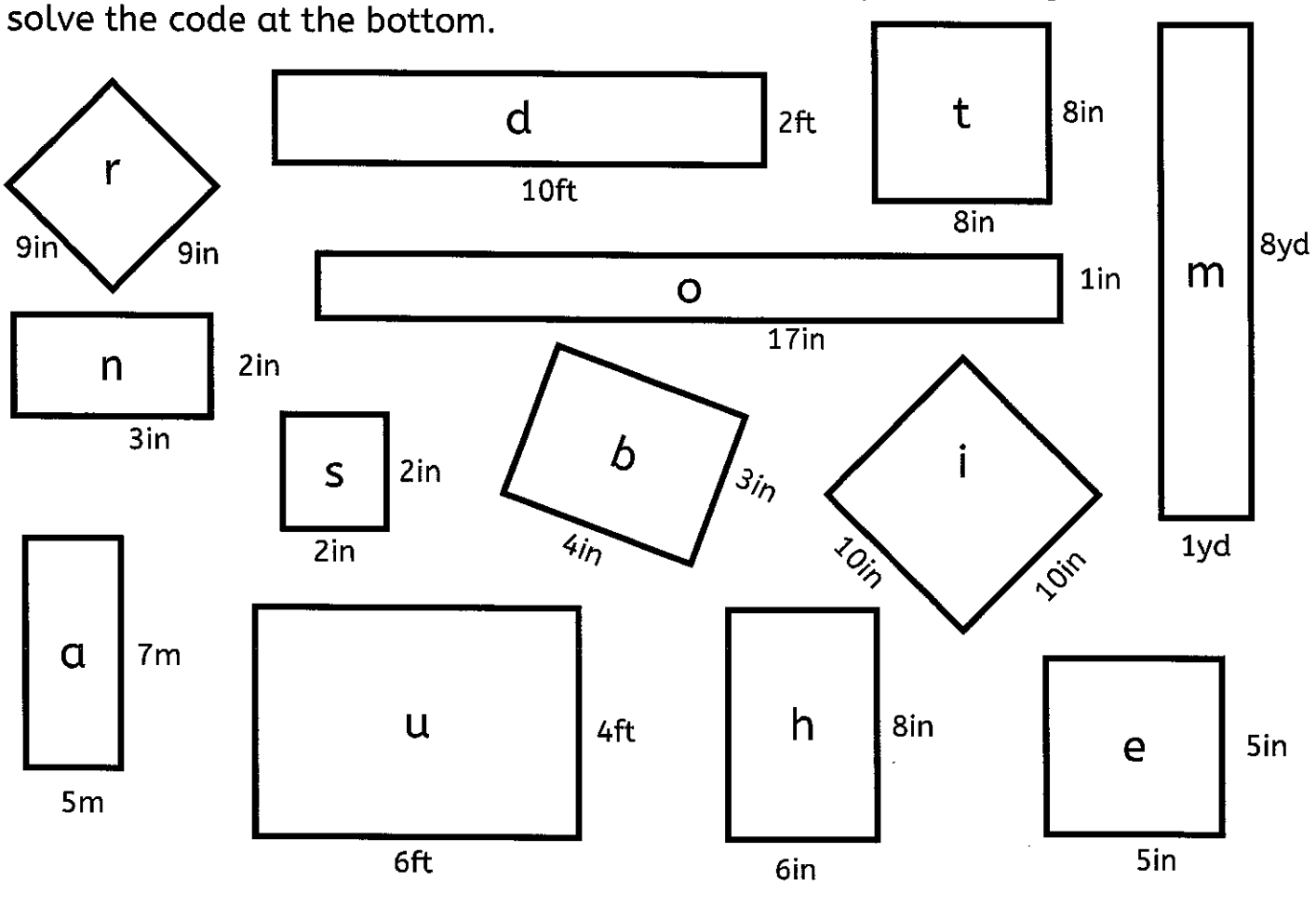
#7

STAR GEOMETRY WARS

Teachers pay Teachers Kiwiland

Clue Four:

What droid does the kidnapper work with? Discover the answer by examining the problems below. Work out the area of each shape and use your answer to solve the code at the bottom.



20	81	17	100	20

48	35	4

64	48	25

6	24	8	12	25	81

64	48	81	25	25

100	6

100	64	4

6	35	8	25

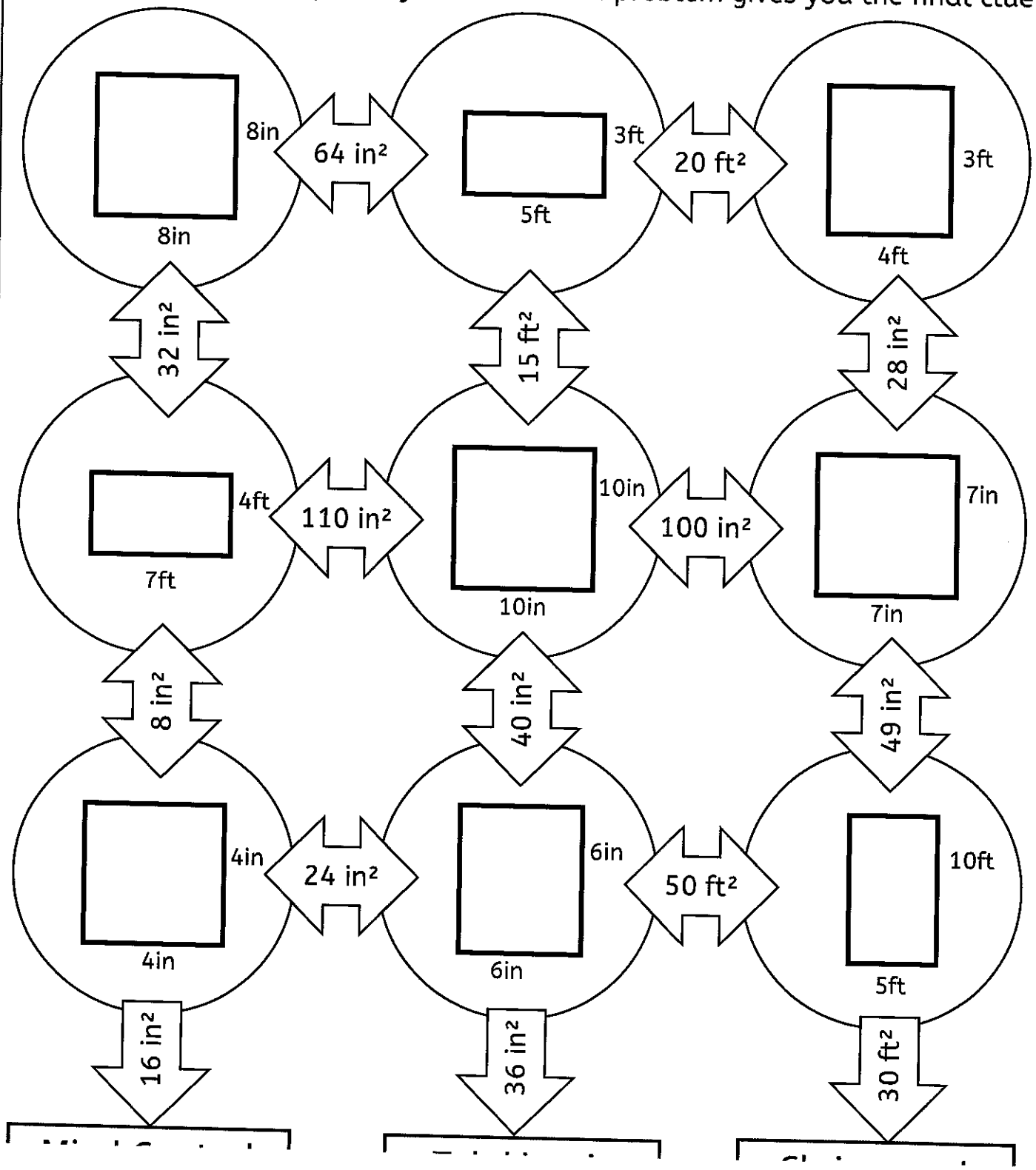
#7

STAR GEOMETRY WARS

Teachers pay Teachers Kiwiland

Clue Five:

Find out how the suspect uses the Force by solving these area problems. Color the correct arrow with the answer and follow onto the next problem that the direction of the arrow points you to. The last problem gives you the final clue.



Packet #8

Course 2: BTS

Section 7.4 Exercises

Quadrilaterals

Exercise 1

Select all the statements that are true.

- [x] All squares are rectangles.
- [x] All squares are parallelograms.
- [ ] All rectangles are parallelograms.
- [ ] All squares are rhombuses.
- [x] All rhombuses are parallelograms.

Exercise 2

Select two types of quadrilaterals with four right angles.

- [x] rectangle
- [ ] trapezoid
- [ ] square
- [ ] hexagon
- [ ] kite

Exercise 3

Packet 10 #8

Which type of quadrilateral does *not* belong with the other three?

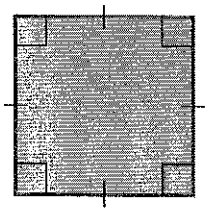
- rectangle
- parallelogram
- square
- kite

Explain your reasoning.

The chosen shape does not fit with the other three because it is the only one that [▾] opposite sides that are [▾].

Exercise 4

Classify the quadrilateral by selecting its most specific name.



- trapezoid
- parallelogram
- kite
- rectangle
- square
- rhombus

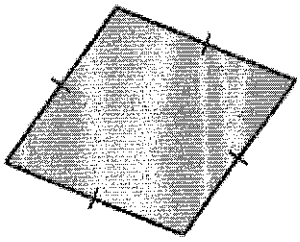
Exercise 5

Classify the quadrilateral by selecting its most specific name.

- trapezoid
- parallelogram
- kite
- rectangle
- square
- rhombus

Exercise 6

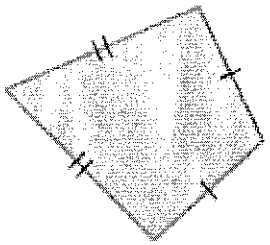
Classify the quadrilateral by selecting its most specific name.



- trapezoid
- parallelogram
- kite
- rectangle
- square
- rhombus

Exercise 7

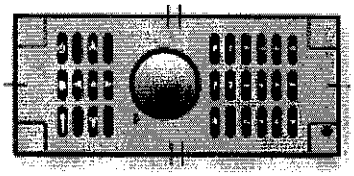
Classify the quadrilateral by selecting its most specific name.



- trapezoid
- parallelogram
- kite
- rectangle
- square
- rhombus

Exercise 9

Classify the quadrilateral by selecting its most specific name.

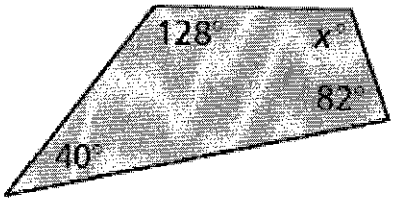


- trapezoid
- parallelogram
- kite
- rectangle
- square
- rhombus

Exercise 11

#8

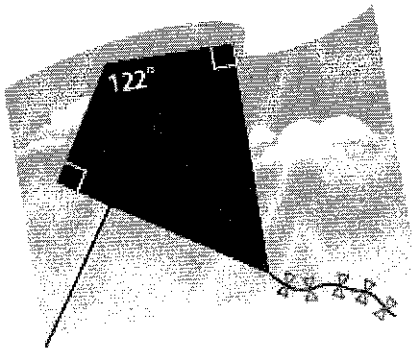
Find the value of x.



$x =$ ☐

Exercise 13

What is the measure of the angle at the tail end of the kite?

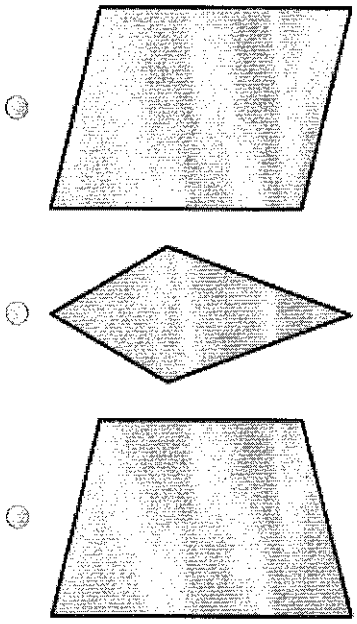


The measure at the tail end of the kite is ☐°.

Exercise 14

#8

Which figure is a trapezoid with a pair of congruent, nonparallel sides?

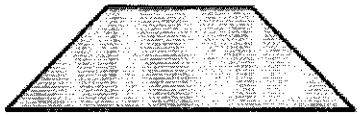


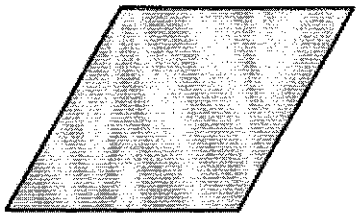
Exercise 16

Protractor

#8

Which figure is a parallelogram with a 45° angle and a 135° angle?





Exercise 18

Complete the sentence using *always*, *sometimes*, or *never*.

A square is [▼] a rectangle.

Exercise 20

Complete the sentence using *always*, *sometimes*, or *never*.

A rhombus is [▼] a square.

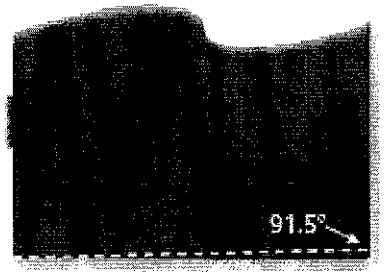
Exercise 22

Complete the sentence using *always*, *sometimes*, or *never*.

A trapezoid is [▼] a kite.

Exercise 24

The dashed line shows how you cut the bottom of a rectangular door so it opens more easily.



a. Identify the new shape of the door. Explain.

The new shape of the door is a [▼] because it is a [▼] with [▼].

b. What is the new angle at the bottom left side of the door?

The new angle at the bottom left side of the door is [ ] °.

Exercise 27

Write the ratio as a fraction in simplest form.

The ratio for 3 turnovers : 12 assists as a fraction is [ ].

Exercise 28

Write the ratio as a fraction in simplest form.

The ratio for 18 girls to 27 boys as a fraction is [ ].

Exercise 29

Write the ratio as a fraction in simplest form.

The ratio for 42 pens : 35 pencils as a fraction is ☐.

Exercise 30

Computer sales decreased from 40 to 32. What is the percent of decrease?

A 8%

B 20%

C 25%

D 80%

Packet #9

Course 2: BTS

Section 7.5 Exercises

Scale Drawings

Exercise 1

Compare and contrast the terms *scale* and *scale factor*.

A [▼] is the ratio that compares the measurements of the drawing or model with the actual measurements.

A [▼] is a scale without any units.

Exercise 2

The scale of a drawing is 2 cm : 1 mm. Is the scale drawing *larger* or *smaller* than the actual object. Explain.

The scale drawing is [▼] because 2 cm is [▼] 1 mm.

Exercise 3

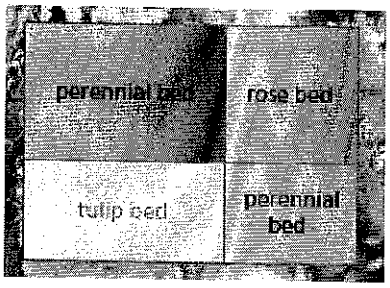
How would you find the scale factor of a drawing that shows a length of 4 inches when the actual object is 8 feet long?

- Use the given lengths, form a scale, and then simplify.
- Convert one of the lengths into the same units as the other length. Then, form a scale and simplify.
- Multiply the given lengths, then simplify.
- Add the given lengths, then divide by 12 and simplify.

Exercise 4

Ruler

Use the drawing and the provided ruler. Each centimeter in the drawing represents 5 feet. #4



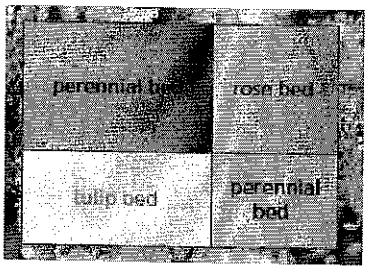
What is the actual length of the flower garden?

- 5 ft
- 25 ft
- 25 cm
- 5 cm

Exercise 5

Ruler

Use the drawing and the provided ruler. Each centimeter in the drawing represents 5 feet.



What are the actual dimensions of the rose bed?

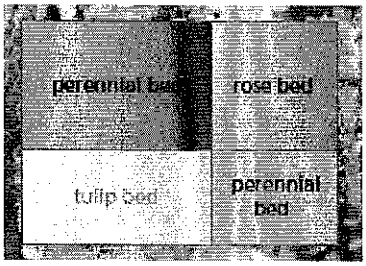
- 2 ft by 2 ft
- 5 ft by 5 ft
- 10 ft by 10 ft
- 15 ft by 15 ft

Exercise 6

Ruler

#9

Use the drawing and the provided ruler. Each centimeter in the drawing represents 5 feet.



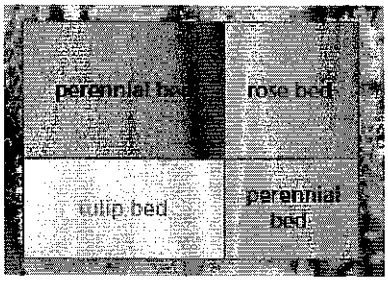
The perimeter of the blue perennial bed is ☐ feet.

The perimeter of the green perennial bed is ☐ feet.

Exercise 7

Ruler

Use the drawing and the provided ruler. Each centimeter in the drawing represents 5 feet.



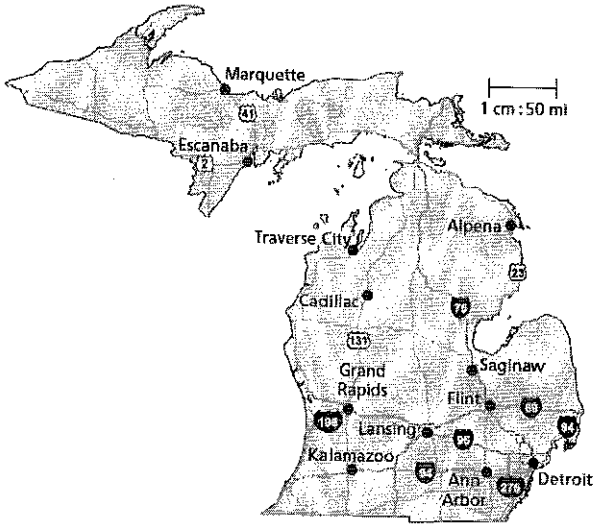
The area of the tulip bed is what percent of the area of the rose bed?

- ○ 12.5%
- ○ 89%
- ○ 112.5%
- ○ 125%

Exercise 9

Ruler

Use the map and the provided ruler to find the actual distance between cities. #9

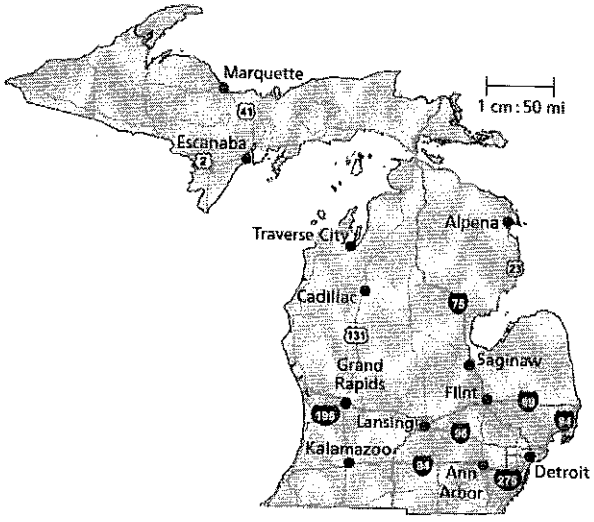


The actual distance between Lansing and Flint is ☐ miles.

Exercise 11

Ruler

Use the map and the provided ruler to find the actual distance between cities.



The actual distance between Saginaw and Alpena is ☐ miles.

Exercise 13

Find the missing dimension. Use the scale factor 1 : 12. #9

Item	Model	Actual
Corvette	Length: ☐ in.	Length: 15 ft

Exercise 15

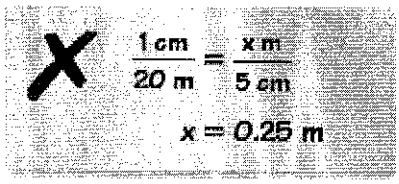
Find the missing dimension. Use the scale factor 1 : 12.

Item	Model	Actual
Wingspan	Width: 5.4 ft	Width: ☐ yd

Exercise 17

A scale is 1 cm : 20 m.

Which describes the error in finding the actual distance that corresponds to 5 centimeters?



- The units on the measurements are incorrect.
- The 5 cm should be in the numerator.
- The multiplication was done incorrectly.
- The division was done incorrectly.

Write the correct answer to fix the error.

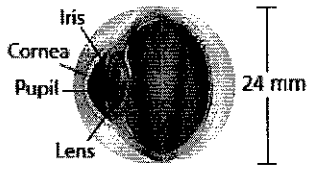
The actual distance that corresponds to 5 centimeters is ☐ meters.

#9

Exercise 19

Ruler

Use the provided ruler to measure the segment shown. Find the scale of the drawing.



The length of the segment is ☐ centimeters.

The scale is ☐ cm : ☐ mm.

Exercise 21

You are in charge of creating a billboard advertisement with the dimensions shown. You make a scale drawing that is 32 inches wide and 16 inches high. What is the scale factor of your drawing of the billboard?

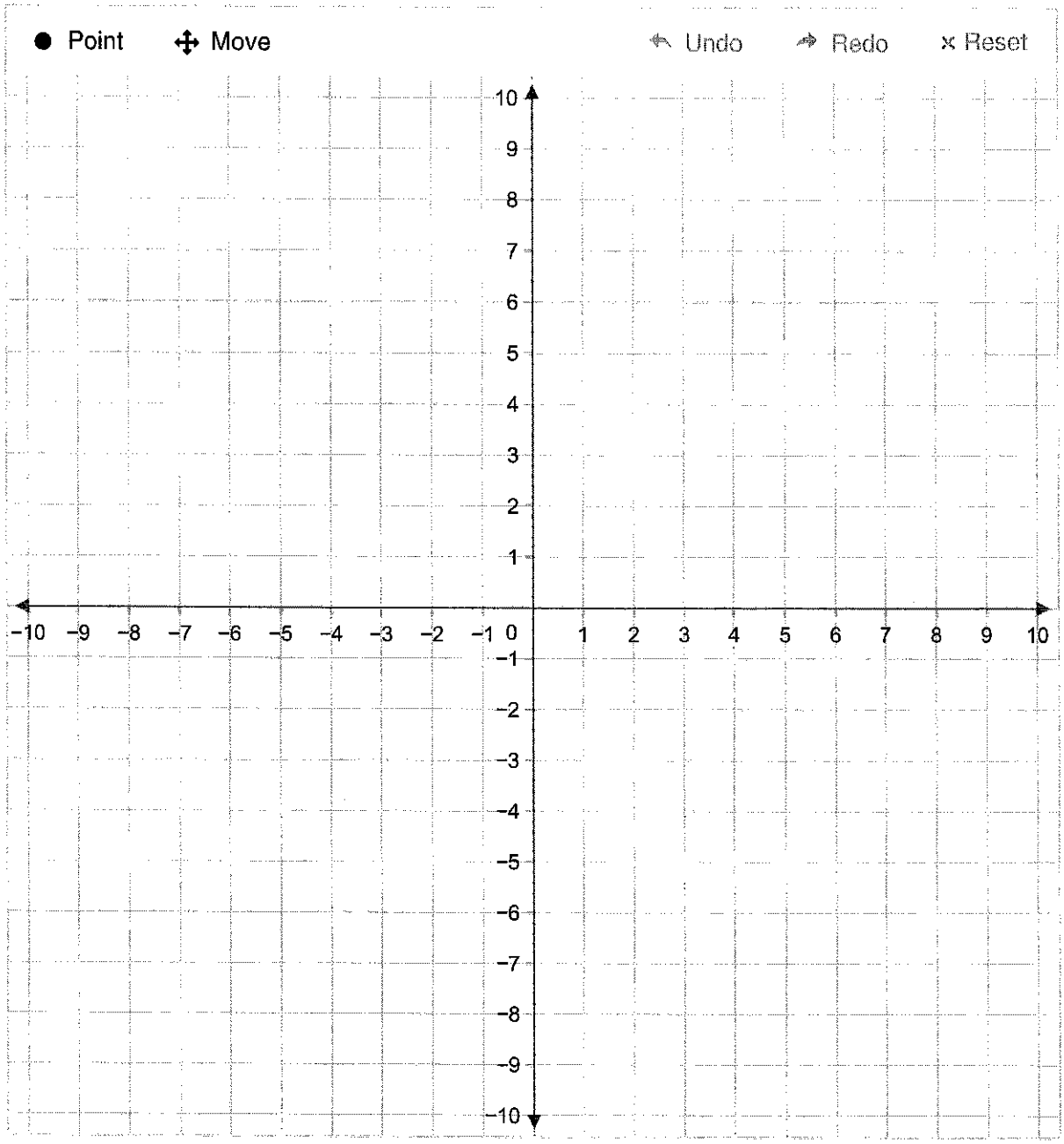
The scale factor is ☐.

Exercise 32

#9

Plot the ordered pair in a coordinate plane.

$(-4, 3)$

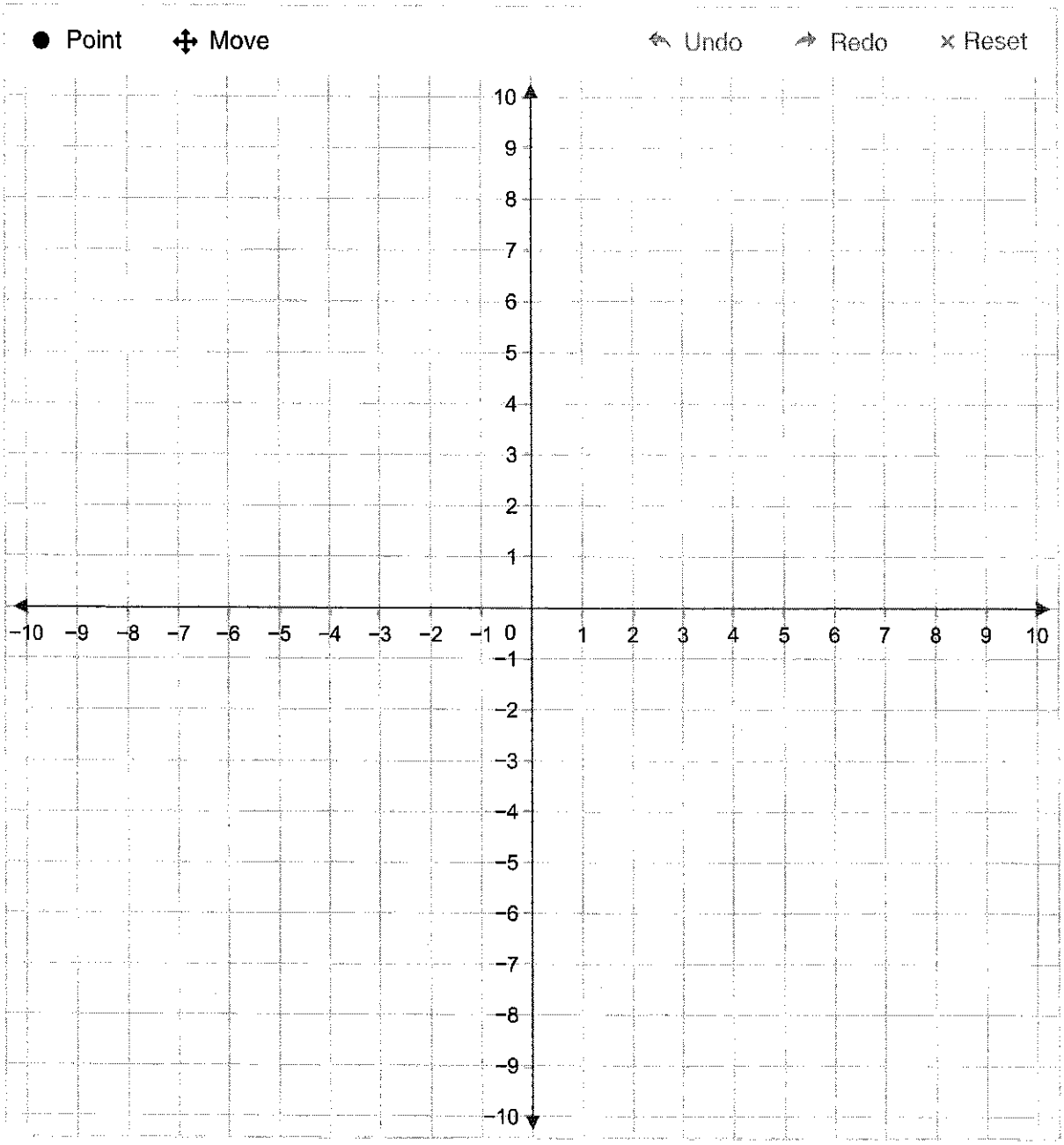


Exercise 33

#9

Plot the ordered pair in a coordinate plane.

$(2, -6)$

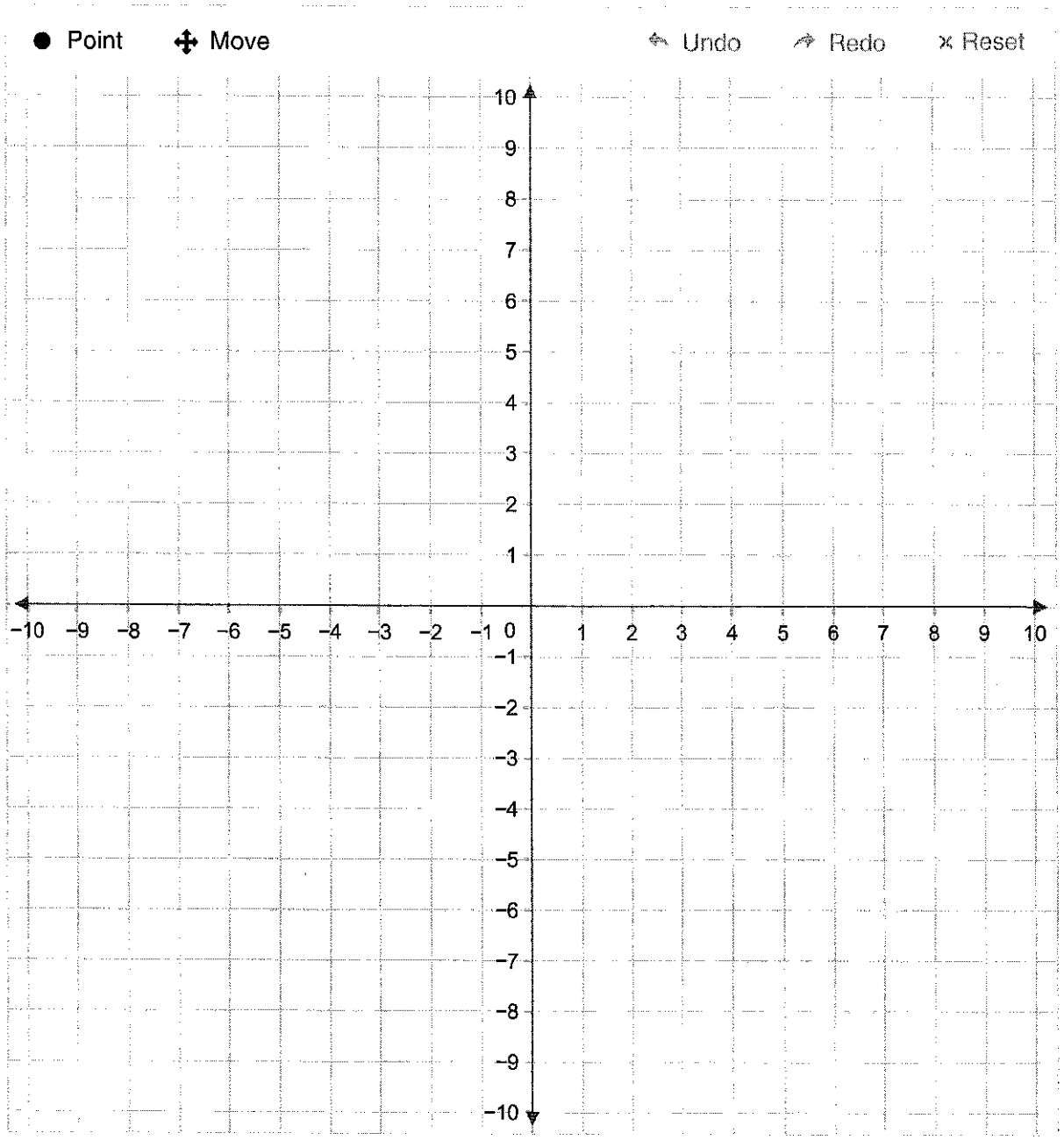


Exercise 34

#9

Plot the ordered pair in a coordinate plane.

(5, 1)

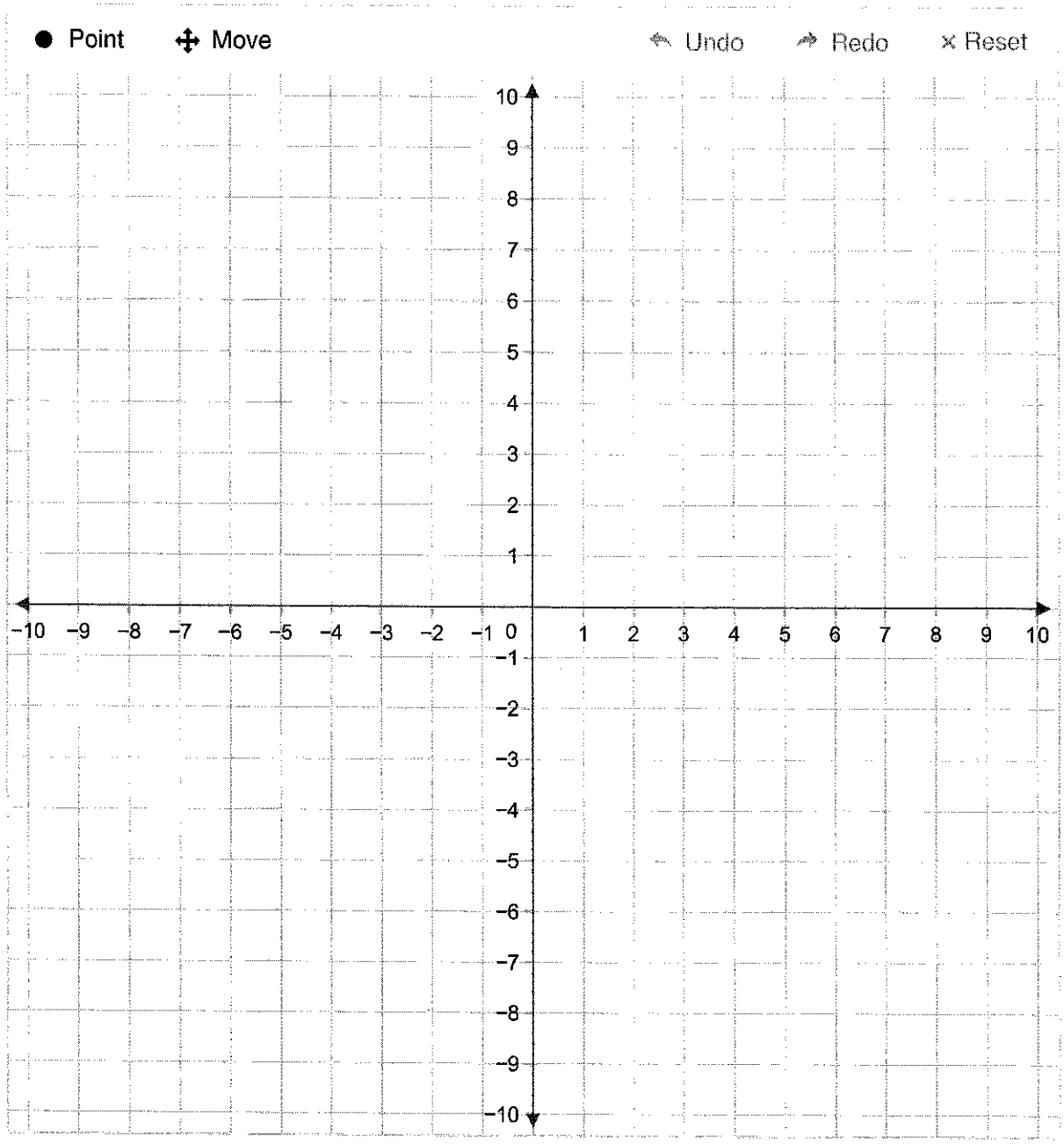


Exercise 35

#4

Plot the ordered pair in a coordinate plane.

$(-3, -7)$



Exercise 36

#9

Which set of numbers is ordered from least to greatest?

A $\frac{7}{20}$, 32%, 0.45

B 17%, 0.21, $\frac{3}{25}$

C 0.88, $\frac{7}{8}$, 93%

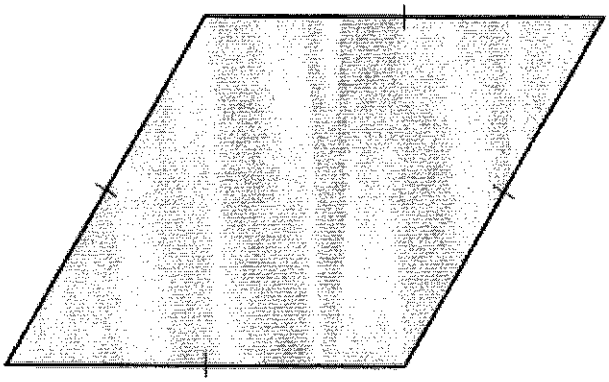
D 57%, $\frac{11}{16}$, 5.7

Packet 4
#10

Course 2: BTS
7.4-7.5 Quiz

Exercise 1

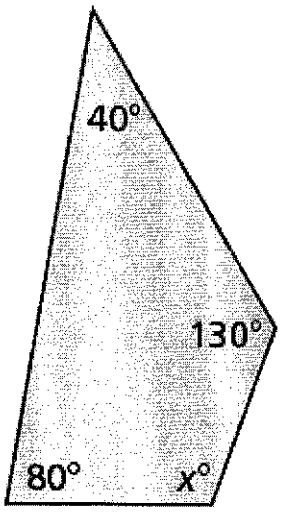
Classify the quadrilateral. Select the most specific name.



- Trapezoid
- Kite
- Rhombus
- Parallelogram
- Rectangle
- Square

Exercise 2

Find the value of x.



The value of x is ☐.

Exercise 3

#10

A scale drawing of a rectangular object has a scale of 1 in. : 3 ft. The scale drawing has a length of 5 inches. What is the actual length?

The actual length is ☐ feet.

Exercise 4

A scale model of an object has a scale of 1 cm : 2 ft. The actual object is 11 feet tall. How tall is the model?

The model is ☐ centimeters tall.

Exercise 5

A scale model of an object is 5 inches tall. The actual object is 250 feet tall. What is the scale factor of the model?

The scale factor is ☐ : ☐.

Exercise 6

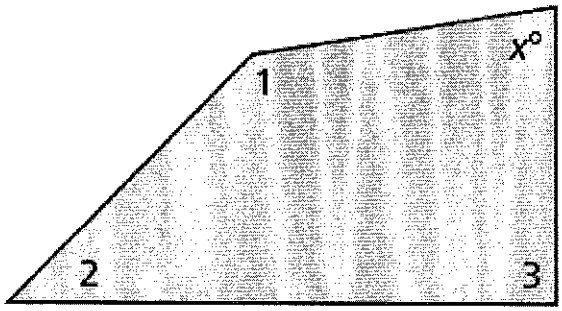
A scale drawing of a square object has a scale of 1 in. : 5 mm. The scale drawing has a length of 2.5 inches. Find the perimeter and the area of the object in the scale drawing. Then find the perimeter and area of the actual object.

Drawing	Actual
Perimeter: ☐ in.	Perimeter: ☐ mm
Area: ☐ $in.^2$	Area: ☐ mm^2

Exercise 7

#10

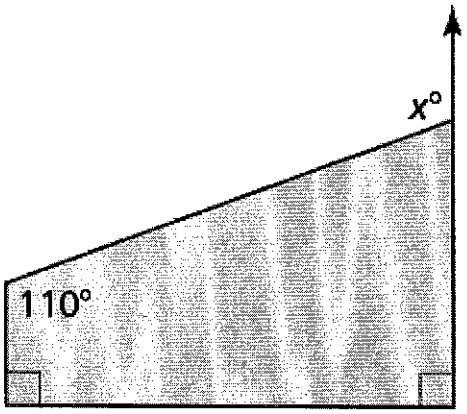
The measures of $\angle 1$, $\angle 2$, and $\angle 3$ are 40%, 12.5%, and 25% of the sum of the angle measures of the quadrilateral. Find the value of x.



$x =$ ☐

Exercise 8

Find the value of x.



$x =$ ☐

Exercise 9

A painter is hired to paint a mural on the side of a 16-foot-tall building. The painter wants to use the entire height of the building to paint a scale drawing of a skyscraper that is in the city. The skyscraper is 800 feet tall. What is the scale factor of the painting?

The scale factor is ☐ : ☐.

Exercise 10

#10

You have $3000 to enclose a rectangular piece of property with a fence. The fence costs $9 per foot. A scale drawing of the property has a length of 8 inches and a width of 7 inches. The scale is 1 in. : 12 ft. How much will it cost to enclose the property with the fence? Do you have enough money?

It will cost $[ ] to enclose the property with the fence.

- ○ You have enough money.
- ○ You do not have enough money.