

CMT Practice Test 1

Directions: Read each problem carefully, and fill in the oval that corresponds to the correct answer.

1. If the temperature on a thermometer reads -3°F then it is _____.
- (A) 3 degrees above zero
 - (B) 3 degrees below zero
 - (C) 30 degrees below zero
 - (D) unknown

2. Which of the following is true about $|x|$?
- (F) It is the same as $-|x|$.
 - (G) It is less than $-|x|$.
 - (H) It is closer to 0 than x on a number line.
 - (J) It is the same distance from 0 as x on a number line.

3. Which of the following numbers is prime?
- (A) 23
 - (B) 18
 - (C) 21
 - (D) 15

4. Which are equivalent to $\frac{2}{5}$?
- (F) 2.5, 25%
 - (G) 0.4, 20%
 - (H) 40%, 0.4
 - (J) none of these

5. Estimate the product of the following.
 8.25×9.6

- (A) 72
- (B) 65
- (C) 60
- (D) 80

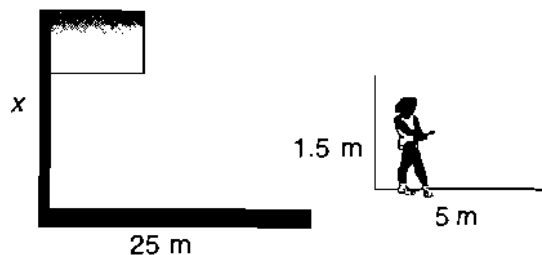
6. Lupe needs to choose what to wear to school. She has 3 shirts, 4 pairs of shoes, and 3 skirts. What is the number of different possible outfits that she could wear?

- (F) 3 outfits
- (G) 10 outfits
- (H) 30 outfits
- (J) 36 outfits

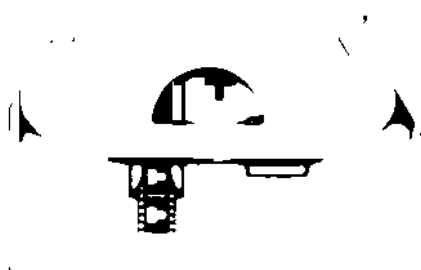
7. In which of the following situations is an estimate reasonable?

- (A) how many CDs you own
- (B) the measurements of a house you are building
- (C) how much money you owe at the grocery store
- (D) how many ounces of medicine to give a patient

8. On a sunny day, the flagpole at Linda's school casts a 25 m long shadow. If Linda is 1.5 m tall and casts a shadow of 5 m at the same time of day, what is the height of the flagpole?



- (F) 7.5 m
- (G) 37.5 m
- (H) 75 m
- (J) 83 m



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9. The length of a movie is 183 minutes. About how many hours long is the movie?

- (A) 2 hours
- (B) $2\frac{1}{2}$ hours
- (C) 3 hours
- (D) $3\frac{1}{2}$ hours

10. Evaluate:

$$48 - 4 \times (2 + 6)$$

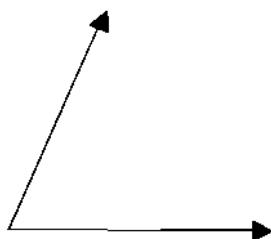
- (F) 12
- (G) -32
- (H) 32
- (J) 16

11. A bottle-nosed dolphin can grow to be over 3 m long and weigh 200 kg. What is another way to write the weight of a bottle-nosed dolphin?

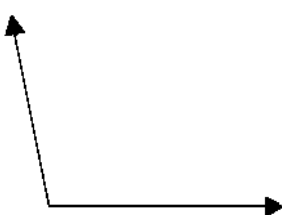
- (A) 200 lb
- (B) 2000 g
- (C) 20,000 g
- (D) 200,000 g

12. Which angle appears to be a right angle?

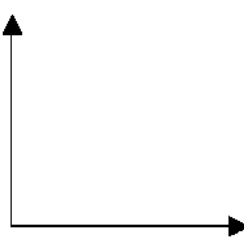
(F)



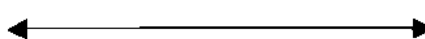
(G)



(H)



(J)



13. Which number is equal to 7.5%?

- (A) $\frac{3}{4}$
- (B) 0.075
- (C) 0.75
- (D) 7.5

14. State the best rule for the pattern.

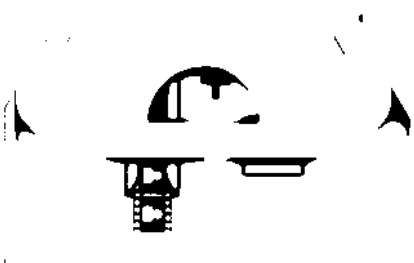
2	4	8	16	32	64	128
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- (F) The numbers are increasing by 2.
- (G) The numbers are increasing by 4.
- (H) The numbers are doubling.
- (J) The numbers are tripling.

15. What two numbers come next in the following pattern?

1, 3, 6, 10, 15, 21, ...

- (A) 25, 33
- (B) 26, 34
- (C) 27, 35
- (D) 28, 36

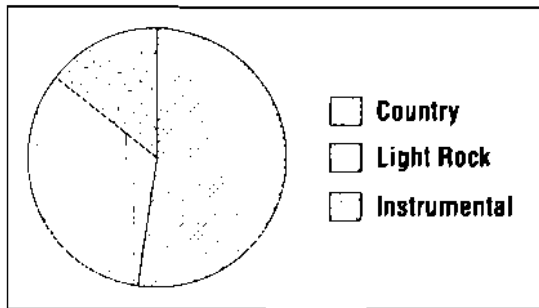


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16. Use the stem-and-leaf plot of last month's daily temperatures in Tampa to determine how many days the temperature was less than 72°.

Stem	Leaves
6	2 5 6 6 8
7	0 2 3 6
8	2 5 7
9	0 5
10	0

- (F) 4 (H) 0
 (G) 2 (J) 6
17. If Marion has 25 markers, how can she divide them in a 2 : 3 ratio?
 (A) 25 : 35 (C) 20 : 5
 (B) 10 : 20 (D) 10 : 15
18. A local country music station polled 2,000 listeners to find out what type of music people preferred. The station reported that less than one third of the people enjoyed light rock. Why is this survey misleading?



- (F) The station only polled current listeners who like country music.
 (G) They did not poll enough people.
 (H) Most people like country music.
 (J) The graph is not misleading.

19. To add the fractions $\frac{1}{15}$ and $\frac{4}{25}$, what common denominator can you use?

- (A) 5
 (B) 25
 (C) 75
 (D) 15

20. Patricia wants to measure the amount of coffee in her coffee cup. Which unit should she use?

- (F) gallons
 (G) ounces
 (H) feet
 (J) degrees celcius

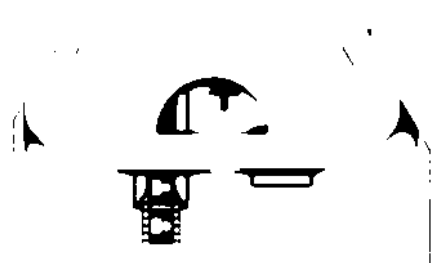
21. What is the best estimate for the length of a car?

- (A) 60 inches
 (B) 12 feet
 (C) 18 meters
 (D) 1 km

22. The following equation demonstrates which property?

$$7(6 + 3) = (6 + 3)7$$

- (F) Associative Property
 (G) Additive Identity
 (H) Commutative Property
 (J) Distributive Property

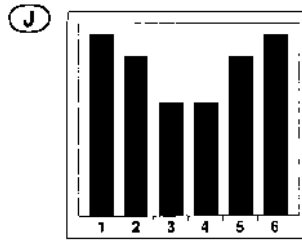
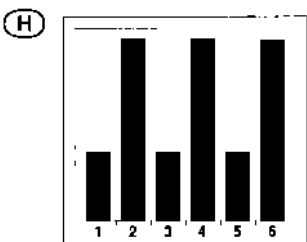
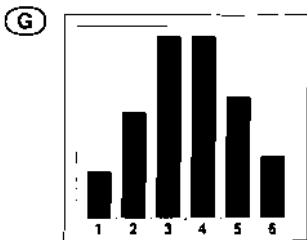
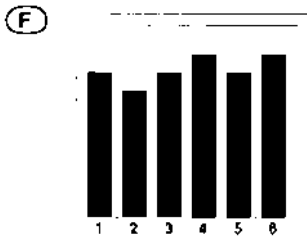


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23. Mickey gets caught stealing base about 1 time out of every 25 attempts. If Mickey tries to steal base 350 times, how many times will he be called out?

- (A) 14
- (B) 24
- (C) 88
- (D) 336

24. Each student in Mrs. Hill's math class rolled a number cube 50 times and graphed the number of times each number came up. Which of the following most likely represents the graph the students made of the results of their whole class?



25. What is the sum of $-4 - 5$?

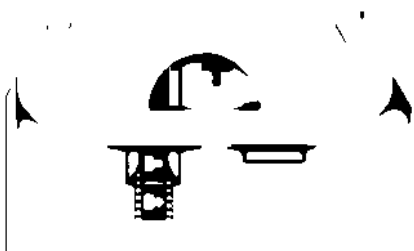
- (A) -1
- (B) -9
- (C) 9
- (D) 1

26. Martin is running 40 yards/minute. What is this rate in feet/second?

- (F) 7.5 ft/sec
- (G) 3 ft/sec
- (H) 5 ft/sec
- (J) 2 ft/sec

27. What is an equivalent expression for 4^3 ?

- (A) 4×4
- (B) 4×3
- (C) $4 \times 4 \times 4$
- (D) $3 \times 3 \times 3 \times 3$



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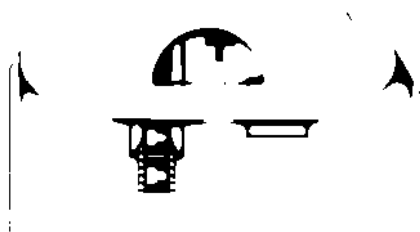
30. The owner of Amy's Flowers placed an order for 60 carnations and 100 roses for each day for the next 5 days. She based this on the number of flowers sold during the previous 5 days. The data shows how many carnations and roses were sold each day for the previous 5 days.

Carnations: 62, 66, 71, 55, 87

Roses: 89, 98, 98, 70, 95

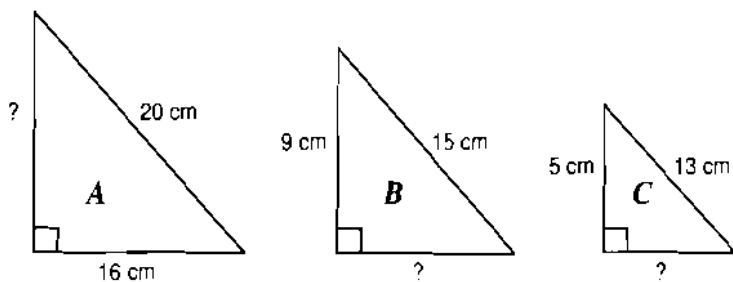
- a. Create a stem-and-leaf plot to find the median number of each type of flower ordered to determine whether Amy made the appropriate order. Explain your answer.

- b. What was the average number of roses and carnations sold in the past 5 days? Round your answer to the nearest whole number.



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31. Ken drew three right triangles. Two of the triangles are similar.



Find the missing side lengths. Which two triangles are similar?

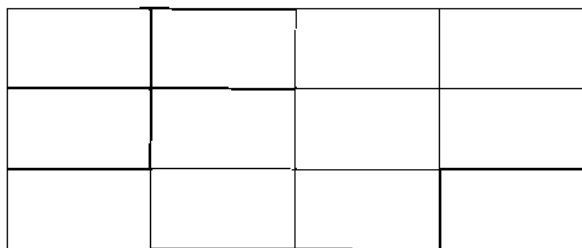
32. Assume the first term of the pattern corresponds to $n = 0$. Write an expression for the n^{th} term of the pattern.

1, 2, 5, 10, 17, ...



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33. Fill in $\frac{3}{4}$ of the figure below.



34. Analyze the table below.

a. Write a function rule that describes the table.

x	$f(x)$
-2	-10
-1	-6
0	-2
1	2
2	6
3	10

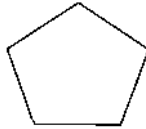
b. Complete the sentence: As x decreases, $f(x)$ _____.



CMT Practice Test 2

Directions: Read each problem carefully, and fill in the oval that corresponds to the correct answer.

1. If one side of this regular pentagon has length s , which expression represents its perimeter?



- (A) $P = 5s$
- (B) $P = 5 + s$
- (C) $s = 5P$
- (D) $P = 5s + P$

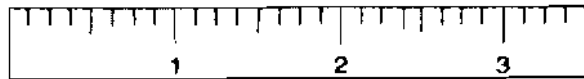
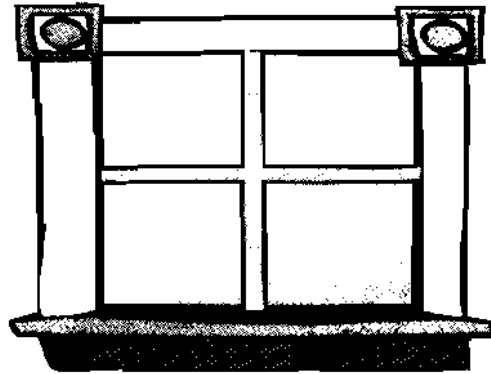
2. It took Simon $2\frac{1}{2}$ hours to clean the pool. He spent $\frac{1}{3}$ of the time filling the pool with clean water. How much time did it take Simon to fill the pool?

- (F) 30 minutes
- (G) 40 minutes
- (H) 50 minutes
- (J) 60 minutes

3. Laura's baby sister weighed 4.2 kg at birth. How many grams did she weigh?

- (A) 42 g
- (B) 420 g
- (C) 4,200 g
- (D) 42,000 g

4. Barry needs to measure the length of a dollhouse windowsill to the nearest $\frac{1}{4}$ inch. What is the length of the windowsill?



- (F) $2\frac{1}{2}$ inches
- (G) $2\frac{3}{4}$ inches
- (H) 3 inches
- (J) $3\frac{1}{4}$ inches

5. Use the stem-and-leaf plot of last month's daily temperatures in Fort Lauderdale to determine how many days the temperature was over 85° .

Stem	Leaves
6	1 3 4
7	0 4 6
8	0 4 4 6 9
9	0 1 2 4 4 5
10	0 1 5

- (A) 11 days
- (B) 5 days
- (C) 9 days
- (D) 14 days

6. Solve the equation $8m - 4 = 20$ for m .

- (F) $m = 2$
- (G) $m = 3$
- (H) $m = -1$
- (J) $m = \frac{1}{2}$



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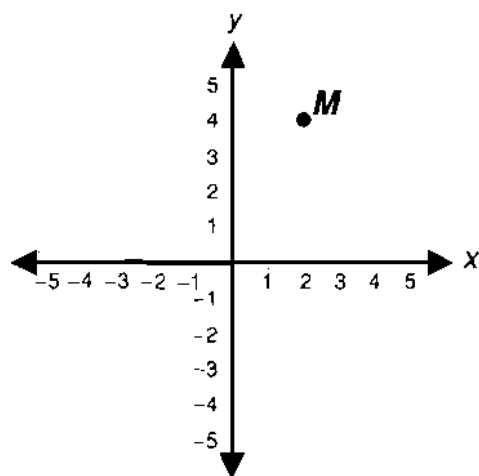
7. Sabrina is a dog groomer. She charges \$15 to groom a dog plus \$3 for every pound over 20 pounds that the dog weighs. Write an algebraic expression to describe Sabrina's pay rate when she grooms a dog that weighs over 20 pounds.

- (A) $15w + 3$
- (B) $15 + 3(20w)$
- (C) $15 + 3w$
- (D) $15 + 3(w - 20)$

8. Shawn bought a blazer for 15% off. If the original price of the blazer was \$35, how much did Shawn save?

- (F) \$29.75
- (G) \$20.00
- (H) \$15.00
- (J) \$ 5.25

9. What are the coordinates of point M ?



- (A) (4, 2)
- (B) (2, 2)
- (C) (4, 6)
- (D) (2, 4)

10. Andy has 24 balloons. The ratio of red to green is 3 : 5. Which pair of numbers below represents this?

- (F) 3 red, 5 green
- (G) 10 red, 14 green
- (H) 9 red, 15 green
- (J) 20 red, 4 green

11. For which problem would an estimate be a sufficient solution?

- (A) If movie tickets sell for \$8 a ticket, how much money do you need to buy 3 tickets?
- (B) What is the maximum number of students allowed by law on a school bus?
- (C) How much flour do you need to make a loaf of banana bread?
- (D) How many guests are coming to the graduation party?

12. An oak tree at the back of a house is $15\frac{3}{4}$ feet taller than the house. If the house is $62\frac{1}{2}$ feet at its peak, how tall is the oak tree?

- (F) $46\frac{3}{4}$ feet
- (G) $50\frac{1}{4}$ feet
- (H) $68\frac{3}{4}$ feet
- (J) $78\frac{1}{4}$ feet

13. What are the best units of measurement to use when you weigh nuts at a bulk-food store?

- (A) cups
- (B) ounces
- (C) meters
- (D) tons



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14. Mr. Schmidt calculated the grades for his math class. What is the median of the grades?

85, 91, 92, 73, 74, 78, 86, 91, 94, 91, 87

- (F) 85 (H) 87
(G) 86 (J) 91

15. While Jana is traveling in Europe, she hears a weather report say the temperature is 9°C . She knows the formula to convert Celsius (C) to Fahrenheit (F) is $F = \frac{5}{9}C + 32$. What is the temperature in $^{\circ}\text{F}$?

- (A) 50°F (C) 44°F
(B) 37°F (D) 32°F

16. Benjamin caught a grouper that weighed 1.4 kg. What is its weight in grams?



- (F) 0.14 g (H) 140 g
(G) 14 g (J) 1,400 g

17. Bill is computing an estimate for $37 + 49$ by adding $40 + 50$. The answer he gets will be _____.

- (A) an overestimate
(B) an underestimate
(C) exact
(D) unknown

18. Which property is demonstrated by the following equation?

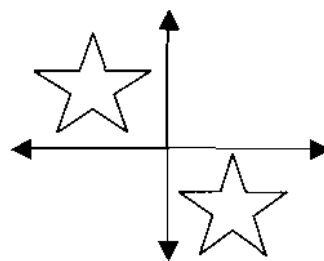
$$\left(\frac{1}{3} + 5\right) + 2 = \frac{1}{3} + (5 + 2)$$

- (F) Associative Property of Addition
(G) Commutative Property of Addition
(H) Distributive Property
(J) Inverse Property

19. Brittany is making lemonade from a mix. The instructions say to mix 8 scoops of powder per gallon, but she is only making a quart. How many scoops should Brittany use?

- (A) 1 (C) 4
(B) 2 (D) 16

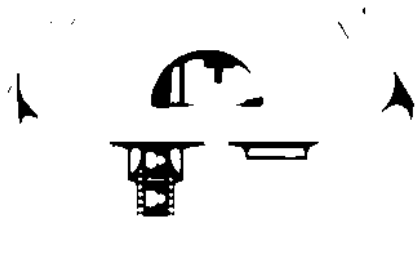
20. Identify the transformation shown below.



- (F) reflection
(G) rotation
(H) translation
(J) dilation

21. At lunch Emma has three different vegetable options and three drink options. The vegetables for today are corn, carrots, or peas. The drinks are white milk, orange juice, or strawberry milk. How many different combinations of a vegetable and of a drink could Emma possibly choose?

- (A) 3 (C) 9
(B) 6 (D) 12



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22. It takes Ed $2\frac{1}{2}$ hr to mow his lawn, $\frac{3}{4}$ hr to weed the flower bed, and 20 minutes to water the flowers. How much time does it take Ed to complete his yard work?

- (F) $2\frac{5}{9}$ hr
- (G) $2\frac{7}{12}$ hr
- (H) $2\frac{19}{12}$ hr
- (J) $3\frac{7}{12}$ hr

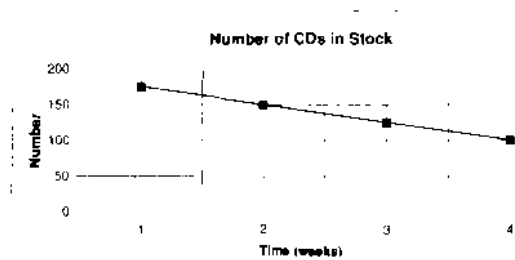
23. Two points in the same plane that never intersect are _____.

- (A) perpendicular
- (B) parallel
- (C) skew
- (D) vertical

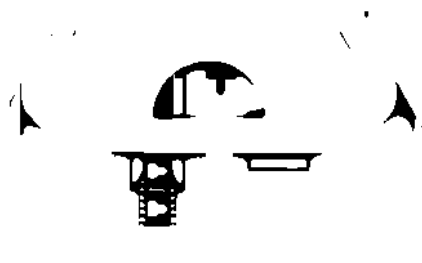
24. Jimmy has a sock drawer with 12 white socks, 8 black socks, 8 green socks, and 2 red socks. If he reaches in randomly and takes out one sock, what is the probability that it will be red?

- (F) $\frac{7}{12}$
- (G) $\frac{1}{15}$
- (H) $\frac{3}{4}$
- (J) $\frac{1}{4}$

25. Which statement describes how one variable changes in relation to the other?

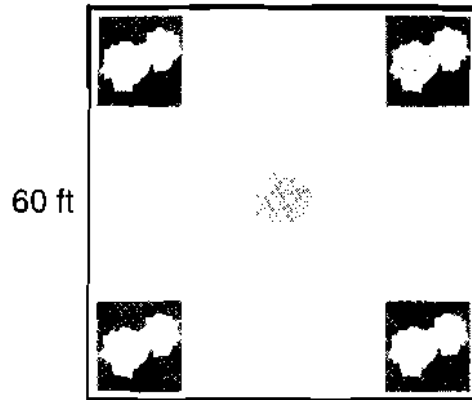


- (A) Each week the number of CDs in stock decreases by 50.
- (B) Each week the number of CDs in stock increases by 50.
- (C) The number of CDs does not change each week.
- (D) The number of CDs in stock decreases by 25 each week.

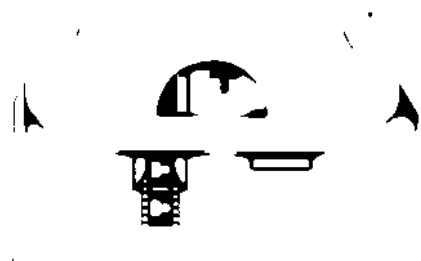


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27. Sharon wants to landscape her square backyard. She would like to plant 4 different flower gardens in each corner of the yard, install a circular fountain in the middle, and fence the entire backyard with 6 ft wide fence panels. Below are the landscape blueprints for Sharon's yard.



- The fence panels cost \$12 a piece. How much will it cost Sharon to enclose her backyard?
- Each flower garden will be planted in a square design with side lengths measuring 10 ft. What is the total area covered by the flower gardens? Use the formula for the area of a square.
- The fountain has a diameter of 6 feet. The formula for the area of a circle is $A = \pi r^2$ where r is the radius. Using 3.14 for π , find the area covered by the fountain.








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28. Mr. Stuart designed a chore list and a reward list. Brandon will earn points for each chore. Each chore is given a symbol that tells Brandon what point value that chore is worth. The symbols are as follows:



The lightning bolt is worth 3 points. The star and smiley face are both natural numbers.

Each symbol has a different point value. Use the clues to find the value of each symbol.

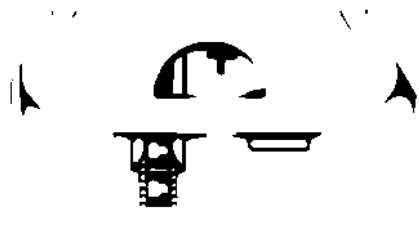
Clue 1:   is the same as   

Clue 2:    is the same as  

Clue 3:     is the same as  

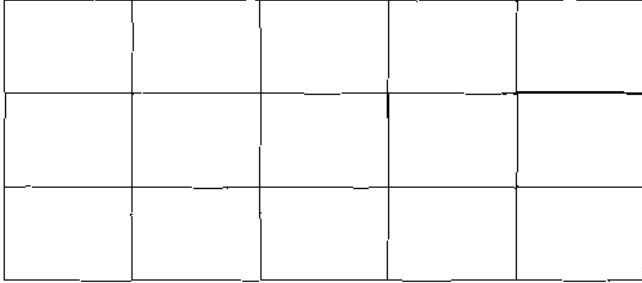
a. Use the clues to find the value of a star and the value of a smiley face. Use words or symbols to explain your reasoning.

b. Brandon can go play miniature golf with his dad when he earns 20 points. What is the fewest number of chores he can do to earn 20 points?



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29. a. On the grids below, shade in squares equal to $\frac{1}{3}$ and $\frac{2}{5}$ of the total area. Be sure to label each one.



- b. Which fraction is larger? How do you know?

30. Draw a quadrilateral with 2 parallel sides and 2 non parallel sides.

