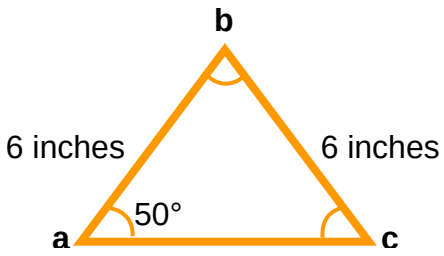
1. A triangular area in City Park has been set aside for landscaping. It measures 25 by 35 by 40. Which of the following expresses the total feet of concrete curbing required to **surround** the landscaped space?

   (1) 2(25) + 2(35)
   (2) 0.5(25)(40)
   (3) 25 + 35 + 40
   (4) 0.5(35)(40)
   (5) $25^2 + 35^2$

2. Mrs. Rodriguez plans to purchase a microscope for her daughter, Eva, as a Christmas present. Model A magnifies to a maximum of 5×10^2 times while Model B magnifies to a maximum of 3×10^3 times. Based on this information, which of the following statements is **accurate**?

   (1) Model B is 6 times stronger than Model A.
   (2) The Model A is 6 times stronger than Model B.
   (3) Model B is 1.1 times stronger than Model A.
   (4) Model A is 1.1 times stronger than Model B.
   (5) The Model B is 15 times stronger than Model A.

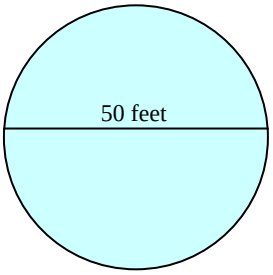
3. Find the measure of **angle b**.



   (1) 6º
   (2) 25º
   (3) 55º
   (4) 80º
   (5) 125º

4. What is the approximate distance **around** the pool?

   (1) 1.57 feet
   (2) 15.7 feet
   (3) 157 feet
   (4) 314 feet
   (5) 1963 feet



5. $\sqrt{196}$

   (1) 12
   (2) 14
   (3) 18
   (4) 26
   (5) 30

6. $\sqrt{441}$

(1) 21
(2) 23
(3) 29
(4) 31
(5) 35

7. Solve the following expression.

$$\frac{6}{4^2}$$

(1) $^1/_{16}$
(2) $^3/_8$
(3) ½
(4) ¾
(5) 3

8. Simplify the following expression.
$10^4 - 5^2$.

(1) 15
(2) 30
(3) 975
(4) 9,975
(5) 10,025

9. If 6 inches of magnetic ribbon cost $3.25, how much does **<u>one</u>** yard cost?

(1) $1.63
(2) $6.50
(3) $19.50
(4) $32.50
(5) $117.00

10. $\sqrt{1024}$

(1) 32
(2) 34
(3) 36
(4) 38
(5) 40

11. $\sqrt{1521}$

(1) 31
(2) 33
(3) 39
(4) 49
(5) 59

12. $\sqrt{1904}$ is between which of the following pair of numbers?

(1) 20 and 30
(2) 30 and 40
(3) 40 and 50
(4) 50 and 60
(5) 60 and 70

13. The ratio of city mileage to interstate mileage in Andres's car is 3 to 4. What is his car's city mileage if his interstate mileage is 36?

(1) 21
(2) 27
(3) 33
(4) 42
(5) 48

14. Which of the following expresses 97,500,000 in **scientific notation**?

(1) 9.75×10^{-7}
(2) 9.75×10^{6}
(3) 9.75×10^{7}
(4) 9.75×10^{-6}
(5) 9.75×10^{-8}

15. Scientists estimate that the temperature at the core of the sun is 27,000,000°F. Which of the following represents the Fahrenheit temperature in **scientific notation**?

(1) 2.7×10^{4}
(2) 2.7×10^{5}
(3) 2.7×10^{6}
(4) 2.7×10^{7}
(5) 2.7×10^{8}

16. From a 2 pound bag of sugar, Marcella used ¼ of a pound to make cookies. Which **expression** tells how much sugar was left?

(1) 2 – 0.25
(2) 2 – 1.4
(3) 2 – 0.14
(4) 2 – 0.0025
(5) 2.5 – 2

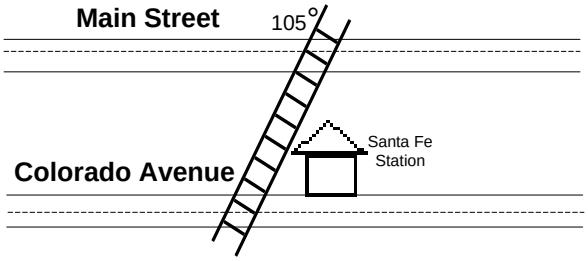
17. $\sqrt{5384}$ is between which of the following pair of number?

(1) 40 and 50
(2) 50 and 60
(3) 60 and 70
(4) 70 and 80
(5) 80 and 90

18. Michael needs to install 20 fence panels to enclose his vegetable garden. By 5:00 p.m. Saturday, Michael had installed 12 panels. Which of the following represents the fraction of the total job that Michael **HAD NOT** installed by 5:00?

(1) $^{3}/_{5}$
(2) 0.6
(3) 60%
(4) $^{12}/_{20}$
(5) $^{2}/_{5}$

19. Main Street and Colorado Avenue are parallel streets. The railroad track cuts straight across both streets. What is the angle Colorado Avenue makes with the railroad track at the Santa Fe Station?



(1) 65°
(2) 70°
(3) 75°
(4) 105°
(5) Not enough information given.

20. The average distance from the planet Mercury to the sun is approximately 46,000,000 miles. Which of the following expresses this distance in **scientific notation**?

(1) 46×10^2
(2) 46×10^4
(3) 4.6×10^5
(4) 4.6×10^6
(5) 4.6×10^7

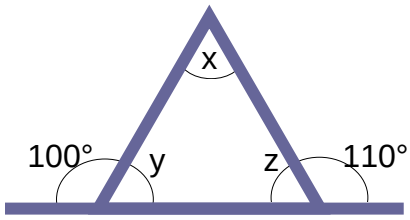
21. At the farthest point in its orbit, the moon is approximately 250,000 miles from Earth. Which of the following represents this distance in **scientific notation**?

(1) 25×10^2
(2) 2.5×10^3
(3) 2.5×10^4
(4) 2.5×10^5
(5) 2.5×10^6

22. The length of a virus expressed in scientific notation is 2.6×10^{-5} meter long. Which of the following expresses the actual length of a virus?

(1) 2.6
(2) 0.026
(3) 0.0026
(4) 0.00026
(5) 0.000026

23. Using the diagram below, find the measure of **angle x**. You must know the measurements of angle y and angle z to find angle x!



	⊘	⊘	⊘	
⊙	⊙	⊙	⊙	⊙
⓪	⓪	⓪	⓪	⓪
①	①	①	①	①
②	②	②	②	②
③	③	③	③	③
④	④	④	④	④
⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨

24. Marie wants to put a wallpaper border around her living room walls, which are 15 feet by 20 feet. How many **complete feet** of the wallpaper border must she buy?

	⊘	⊘	⊘	
⊙	⊙	⊙	⊙	⊙
⓪	⓪	⓪	⓪	⓪
①	①	①	①	①
②	②	②	②	②
③	③	③	③	③
④	④	④	④	④
⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨

25. Simplify $\dfrac{3^2}{(23 - 8)}$

	⊘	⊘	⊘	
⊙	⊙	⊙	⊙	⊙
⓪	⓪	⓪	⓪	⓪
①	①	①	①	①
②	②	②	②	②
③	③	③	③	③
④	④	④	④	④
⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨

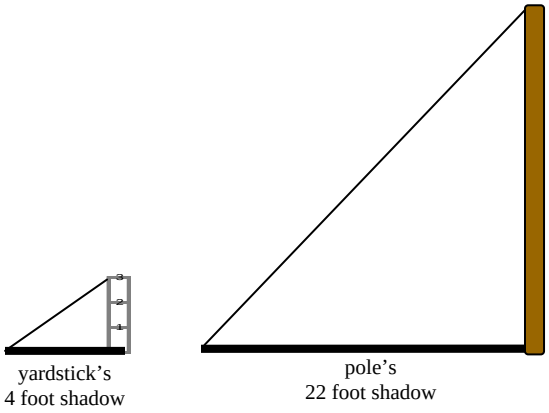
26. $^{13}/_{20}$ of the human body's weight consists of oxygen while hydrogen makes up $^{1}/_{10}$ of the body's weight. Together **what fraction** is the total weight of these two elements?

(1) ¾
(2) $^{2}/_{3}$
(3) $^{3}/_{5}$
(4) ½
(5) $^{2}/_{5}$

27. A woman who weighs 129 pounds is made up of **approximately** how many pounds of hydrogen if hydrogen makes up $^{1}/_{10}$ of her body weight?

(1) 11
(2) 12
(3) 13
(4) 14
(5) 15

Question 28 refers to the following information.



28. To find the height of a post in his yard, David sketched this drawing. He placed a yardstick parallel to the post and compared the yardstick's shadow to the post's shadow. Find the height of the post. Remember.

(A yardstick equals 3 feet).

	⊘	⊘	⊘	
⊙	⊙	⊙	⊙	⊙
⓪	⓪	⓪	⓪	⓪
①	①	①	①	①
②	②	②	②	②
③	③	③	③	③
④	④	④	④	④
⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨

29. Ben is a contractor for El Valle Construction Company. He requires his clients to pay ¼ of the cost of the whole job at the beginning. Ben built a new shed for one of his clients. The first payment was $7,000. What is the **<u>total</u>** price of the job?

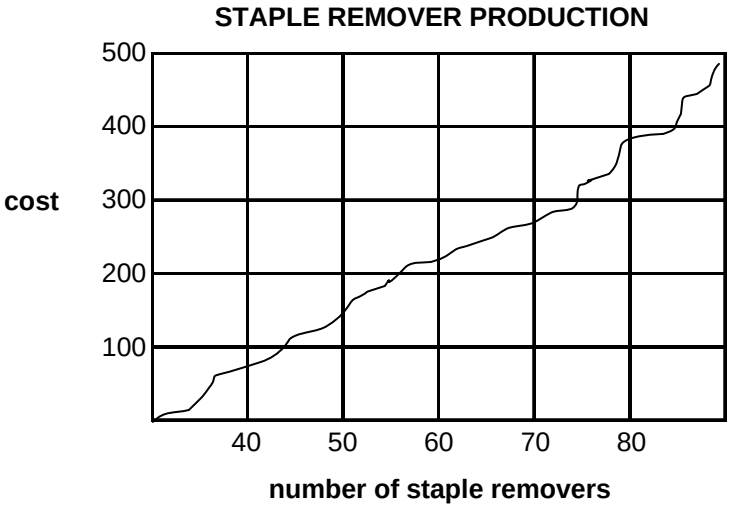
(1) $20,000
(2) $28,000
(3) $30,000
(4) $32,000
(5) $36,000

30. Solve this expression.

$10^3 - 12^2$

	⊘	⊘	⊘	
⊙	⊙	⊙	⊙	⊙
⓪	⓪	⓪	⓪	⓪
①	①	①	①	①
②	②	②	②	②
③	③	③	③	③
④	④	④	④	④
⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨

31. Based on the graph below, approximately how much will 75 staple removers cost?



(1) $150
(2) $250
(3) $300
(4) $450
(5) $500

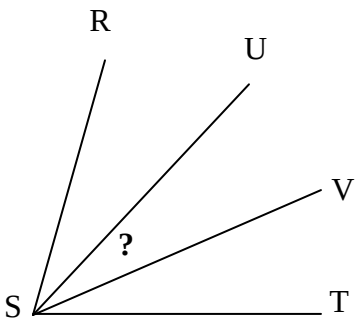
32. In April, Mario went to the Grand Canyon. He used 120 gallons of gas and spent $258. When Francisco went to the Grand Canyon in June, he used 130 gallons of gas and spent $286. What is the **difference** in the cost **per gallon** between Mario's trip and Francisco's trip?

(1) $.05
(2) $.15
(3) $.50
(4) $5.00
(5) $5.50

33. During Jim's last trip to Phoenix, he drove 275 miles in 4.5 hours. How many **miles** did he travel **per** hour?

(1) between 60 mph and 70 mph
(2) between 70 mph and 80 mph
(3) between 80 mph and 90 mph
(4) between 90 mph and 100 mph
(5) between 100 mph and 110 mph

34. Angle RST is 85 degrees.
Angle RSU is 30 degrees.
Angle VST is 30 degrees.
Find angle **USV**.



(1) 6 degrees
(2) 25 degrees
(3) 64 degrees
(4) 116 degrees
(5) 180 degrees

35. The Martinez family pays $40 per month for Dish Network cable service. In 2010 they rented a total of 20 movies for $4 each. How much did they spend altogether in 2010 for cable service and movie rentals?

(1) $65
(2) $375
(3) $560
(4) $650
(5) Not enough information given.

36. Trash service in Rocky Ford is only on Wednesdays. It was last picked up on Wednesday the 4^{th}. When is the next Wednesday it will be picked up?

(1) the 12^{th}
(2) the 14^{th}
(3) the 19^{th}
(4) the 24^{th}
(5) the 25^{th}

37. Arrange these fractions from least to greatest.

(a) $\frac{x}{4}$

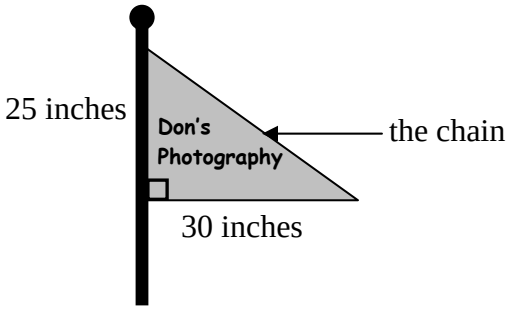
(b) $\frac{x}{5}$

(c) $\frac{x}{6}$

(d) $\frac{x}{10}$

(1) d, c, b, a
(2) c, a, b, d
(3) d, b, a, c
(4) a, b, c, d
(5) d, c, a, b

38. A sign at Don's Photography Shop in Manzanola is hung on a post. Approximately, how long is the chain?



(1) 26 inches
(2) 29 inches
(3) 37 inches
(4) 39 inches
(5) 49 inches

39. Solve the following expression.

(2) (-3) 4^2 + -3^2

(1) –79
(2) –87
(3) 79
(4) 87
(5) Not enough information given.

40. The area of a square is 900^2. Find the **perimeter**.

(1) 40
(2) 60
(3) 120
(4) 200
(5) 400

41. Sunny has to be at the Colorado Vet Clinic at 8:20 Friday morning, and it takes 45 minutes to get there. What time would she leave to get there on time?

(1) 7:30
(2) 7:35
(3) 7:40
(4) 7:05
(5) Not enough information given.

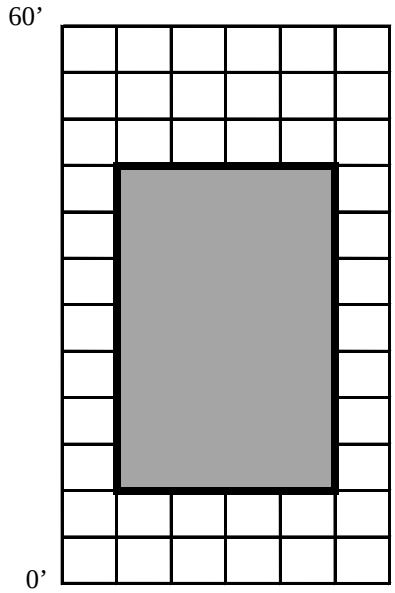
42. Helen spent a total of $13.00 at Van Hook's Nursery. She spent 3 times more on plants than on seeds. How much were the seeds?

(1) $.32
(2) $3.25
(3) $3.50
(4) $32.50
(5) Not enough information given.

43. John's foyer is 12' x 12'. One box of tile will cover 10 square feet. How many boxes of tile should John buy to tile the foyer?

(1) 14 boxes
(2) 13 boxes
(3) 12 boxes
(4) 11 boxes
(5) 10 boxes

Question 44 is based on the diagram below.



44. Find the **perimeter** of the **shaded** area?

(1) 35'
(2) 40'
(3) 70'
(4) 110'
(5) 120'