

$$24. d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$d = \sqrt{(10 - (-1))^2 + (-11 - (-5))^2}$$

$$d = \sqrt{121 + 36} = \sqrt{147}$$

$$25. -1, 2, 7, 14, 23, \dots$$

$$\begin{array}{cccccc} \checkmark & \checkmark & \checkmark & \checkmark & \checkmark & \\ +3 & +5 & +7 & +9 & +11 & \end{array}$$

26.  $QS \cong QS$   
(same segment)

27.  $\angle 3$  and  $\angle 7$  are corresponding  $\angle$ s, so congruent.

28. vertical Angles

$$8x + 20 = 12x - 20$$

$$40 = 4x$$

$$10 = x$$

$$12(10) - 20$$

Choose the best answer.

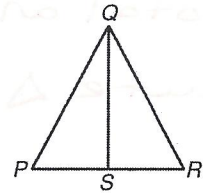
24. To the nearest tenth, what is the distance between the points (10, -11) and (-1, -5)?

- F 2.6
- G 4.1
- H 12.5
- J 18.4

25. Which is next in the sequence -1, 2, 7, 14, 23, ...

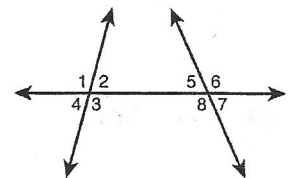
- A 24
- B 25
- C 32
- D 34

26. In the figure, why is  $QS \cong QS$ ?



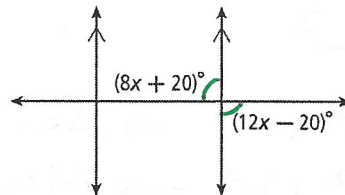
- F All altitudes are congruent.
- G Symmetric Property of Congruence
- H Reflexive Property of Congruence
- J Transitive Property of Congruence

27. Which names a pair of corresponding angles?



- A  $\angle 1$  and  $\angle 6$
- B  $\angle 3$  and  $\angle 8$
- C  $\angle 2$  and  $\angle 7$
- D  $\angle 3$  and  $\angle 7$

28. What is the value of  $12x - 20$ ?



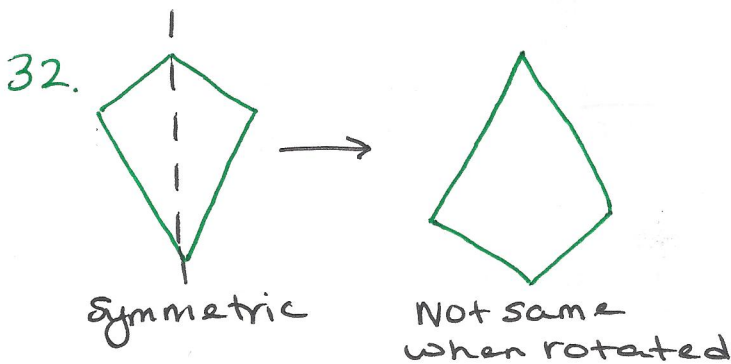
- F 34
- G 88
- H 90
- J 100

29.  $m = \frac{y_2 - y_1}{x_2 - x_1}$

$m = \frac{6 - 9}{4 - (-1)} = \frac{-3}{5}$

30.  $y\text{-int} = -1$   
 Slope =  $-\frac{2}{3}$  }  $y = mx + b$   
 $y = -\frac{2}{3}x - 1$

31. Total angle =  $180^\circ$   
 Acute  $\Delta$  = all  $< 90^\circ$



33. When you do  
 $a^2 + b^2 = c^2$

if  $c^2 < a^2 + b^2 \rightarrow$  Acute

if  $c^2 = a^2 + b^2 \rightarrow$  Right

if  $c^2 > a^2 + b^2 \rightarrow$  obtuse

29. What is the slope of the line that passes through the points  $(-1, 9)$  and  $(4, 6)$ ?

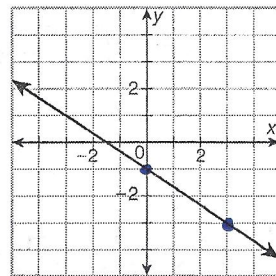
A  $-\frac{5}{3}$

C  $\frac{1}{5}$

B  $-\frac{3}{5}$

D 5

30. Which is the equation of the line in the graph?



F  $y = -2x - 3$

G  $y = -\frac{3}{2}x - 3$

H  $y = -3x - 1$

J  $y = -\frac{2}{3}x - 1$

31. Two of the three angle measures in a triangle are given. Which are angle measures of an acute triangle?

A  $11^\circ, 79^\circ$

C  $11^\circ, 89^\circ$

B  $11^\circ, 59^\circ$

D  $11^\circ, 29^\circ$

32. Which polygon has line symmetry but not rotational symmetry?

F rectangle

H rhombus

G square

J kite

33. Which are the lengths of the sides of an obtuse triangle?

A 8, 11, 15

C 11, 11, 15

B 9, 12, 15

D 10, 12, 15

34. SSS, SAS, AAS, HL, or ASA

35.  $JM + ML = \text{width}$   
 $12 + 12 = 24$

36. P = centroid  
 vertices to centroid  
 is  $\frac{2}{3}$  whole median  
 centroid to side is  
 $\frac{1}{3}$  whole median

$PR = \frac{1}{3}MR \rightarrow 3 = \frac{1}{3}MR$   
 $9 = MR$

so  $\rightarrow MP = \frac{2}{3}MR \rightarrow MP = \frac{2}{3}(9)$

37. Midsegment Theorem

$X = 180 - 72 - 43 = 65^\circ$

38. Properties of Parallelogram

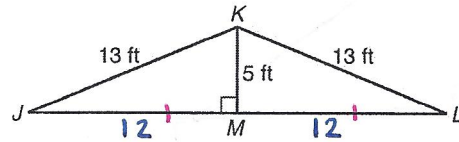
opposite sides are  $\cong$

opposite angles are  $\cong$

both pairs of opp. sides are parallel

consecutive  $\angle$ s are supplementary  
 diagonals bisect.

The figure represents the wooden truss used to support the roof of a garage. Use the figure for Exercises 18 and 19.



34. What postulate or theorem can be used to prove  $\triangle JKM \cong \triangle LKM$ ?

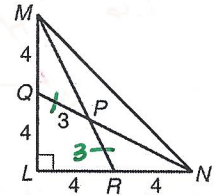
- F SSS
- G SAS
- H ASA
- J HL

35. Given that  $ML = 12$  feet, how wide is the garage?

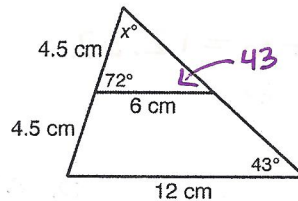
- A 12 ft
- B 24 ft
- C 25 ft
- D 26 ft

36. What is  $MP$ ?

- F  $3\sqrt{2}$
- G  $4\sqrt{2}$
- H 6
- J 8



37. What is the value of  $x$ ?



- A 25
- B 29
- C 65
- D 115

38. Which CANNOT be used to prove that a quadrilateral is a parallelogram?

- F One pair of opposite angles is congruent.
- G Both pairs of opposite sides are parallel.
- H Both pairs of opposite sides are congruent.
- J One pair of opposite sides is both parallel and congruent.



39.

$QT^2 + 3.5^2 = 8.4^2$   
 $QT = 7.6$

40.

$$\frac{2.6}{5.6} = \frac{2.2}{x+2.2}$$

$$2.6x + 5.76 = 12.32$$

Solve for x.

41.

$\frac{5.75}{8} = \frac{x}{30}$   
 Solve for x.

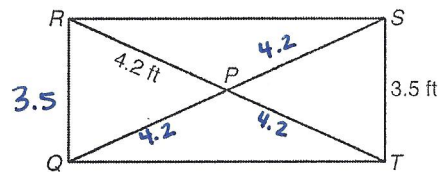
42. dilated = multiply

$$d = \sqrt{(9-(-1))^2 + (3-5)^2} = \sqrt{104} \times 2.5$$

43. Just use your calculator

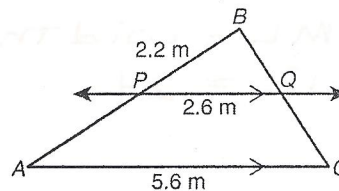
\*calculator MUST be in degree mode.

39. The figure represents a rectangular gate with diagonal braces. To the nearest tenth, what is the width, QT, of the gate?



- A 3.9 ft
- B 4.9 ft
- C 7.0 ft
- D 7.6 ft

40. To the nearest tenth, what is AP?



- F 1.0 m
- G 2.2 m
- H 2.5 m
- J 4.7 m

41. Starla is 5 feet 9 inches tall. To find the height of a tree, she measured her shadow and the tree's shadow. Her shadow was 8 feet long when the tree's shadow was 30 feet long. To the nearest foot, how tall is the tree?

- F 15 ft
- G 22 ft
- H 28 ft
- J 42 ft

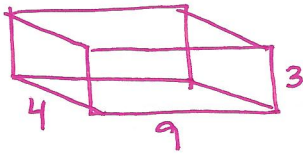
42.  $\overline{MN}$  with endpoints  $M(9, 3)$  and  $N(-1, 5)$  is dilated by a scale factor of 2.5. To the nearest tenth, what is the length of  $\overline{M'N'}$ ?

- A 16.1
- B 17.9
- C 25.5
- D 28.3

43. To the nearest thousandth, what is  $\tan 77^\circ$ ?

- F 0.225
- G 0.231
- H 0.974
- J 4.331

45.



$V = \text{length} \cdot \text{width} \cdot \text{height}$

46.  $\text{Sector} = \frac{\text{arc}}{360} \cdot \pi r^2$   
 $= \frac{50}{360} \cdot \pi (9)^2$

47. inside  $\angle = \frac{1}{2}(B + s)$   
 inside  $\angle = \angle PRM$   
 $\angle PRM = \frac{1}{2}(46.5 + 163.5)$

48. part 1 · part 2 = part 1 · part 2  
 $6 \cdot 14 = x \cdot 15$   
 $84 = 15x$

49.  $\frac{127}{275}$

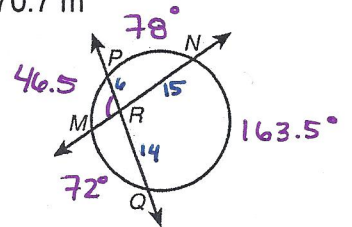
45. What is the volume of a rectangular prism that is 4 inches wide, 9 inches long, and 3 inches high?

- F  $36 \text{ cm}^3$                       H  $324 \text{ cm}^3$   
 G  $108 \text{ cm}^3$                       J  $432 \text{ cm}^3$

46. To the nearest tenth, what is the area of a sector of a circle of radius of 9 meters if the central angle is  $50^\circ$ ?

- A  $1.3 \text{ m}^2$                       C  $35.3 \text{ m}^2$   
 B  $5.1 \text{ m}^2$                       D  $70.7 \text{ m}^2$

Refer to the figure for Exercises 35 and 36.



47.  $m\widehat{PN} = 78^\circ$ ,  
 $m\widehat{QN} = 163.5^\circ$ , and  
 $m\widehat{MQ} = 72^\circ$ . What is  $m\angle PRM$ ?

- F  $47^\circ$                       H  $94^\circ$   
 G  $57^\circ$                       J  $105^\circ$

48.  $PR = 6$ ,  $NR = 15$ , and  $QR = 14$ .  
 To the nearest tenth, what is  $MR$ ?

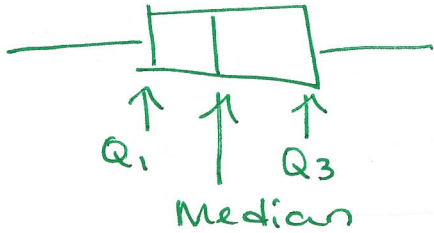
- A  $5.6$                       C  $6.4$   
 B  $6.0$                       D  $7.0$

49. Use the two way frequency table to determine the percentage of underclassmen (freshmen and sophomores) that like the cafeteria food.

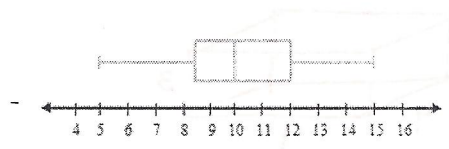
	Freshmen	Sophomores	Juniors	Seniors	Totals
Liked Food	50	77	85	82	294
Didn't like food	92	56	44	78	270
	142	133	129	160	564

- A  $23\%$                       C  $46\%$   
 B  $35\%$                       D  $65\%$

50.



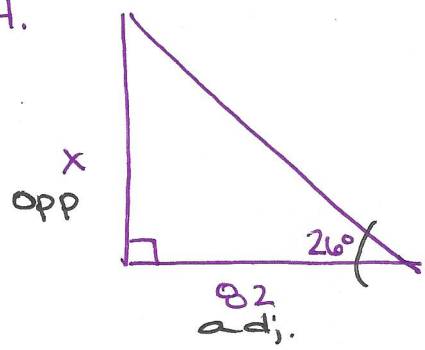
50. What is the median in the graph below?



Bob's Points

- |             |      |
|-------------|------|
| A 8.5       | C 11 |
| <u>B 10</u> | D 12 |

44.



$$\tan 26 = \frac{x}{82}$$

44. When the angle of elevation to the sun is  $26^\circ$ , a flagpole casts a shadow that is 82 feet long. What is the height of the flagpole to the nearest foot?

- |                |         |
|----------------|---------|
| F 36 ft        | H 74 ft |
| <u>G 40 ft</u> | J 1     |