Name _____

Diagnostic Test

Directions: Circle the best answer for each of the following questions.

1. Miguel has 80 stickers. He wants to give 20% of them to his sister. How many stickers will he give her?

   A. 16 stickers

   B. 20 stickers

   C. 32 stickers

   D. 25 stickers

2. Gia wants to buy a CD. The regular price of the CD is $15.00 but for the next week, the CD will be discounted by 20%. How much money does Gia need to buy the CD?

   A. $13.00

   B. $12.00

   C. $14.80

   D. $10.00

3. Josephine has 25 spelling questions to do. She has finished 5 questions. What is the percent of questions that Josephine needs to finish?

   A. 60%

   B. 20%

   C. 75%

   D. 80%

4. Ally has a box of 200 buttons. In the box, 10% of the buttons are green, 25% of the buttons are pink, 30% of the buttons are white, 15% of the buttons are purple, and 20% of the buttons are white. What is the fraction of pink buttons in the box?

   A. $\frac{1}{25}$

   B. $\frac{1}{4}$

   C. $\frac{1}{5}$

   D. $\frac{1}{15}$

5. The snack shack wants to make a 20% profit on the snacks they sell. If a water bottle costs them $0.50, what is the price that they will charge for the water?

   A. $0.80

   B. $0.70

   C. $0.60

   D. $0.75

6. Jared bought 12 baseball cards in April. He bought *b* more baseball cards in May. Which is the expression that shows how many baseball cards Jared has bought altogether for the two months?

   A. 12 − *b*

   B. 12*b*

   C. $\frac{12}{b}$

   D. 12 + *b*

Diagnostic Test *(cont.)*

Directions: Circle the best answer for each of the following questions.

7. Arlene's mom is 5 times older than Arlene. If Arlene is *a* years old, which expression shows the age of Arlene's mom?

    A. $5a$

    B. $5 \div a$

    C. $5 + a$

    D. $5 - a$

8. A small order of fries costs $0.35 less than the price of a large order of fries. If the large order of fries costs *f*, which expression shows the price of the small order of fries?

    A. $0.35f$

    B. $0.35 + f$

    C. $f - 0.35$

    D. $0.35 - f$

9. Tanner, Evan, and Calen are combining their baseball cards for a display. They have a total of 165 cards. Tanner has 45 cards. Evan has 70 cards. If Calen has *c* cards, which equation below shows the number of cards Calen has for the display?

    A. $45 + c - 70 = 165$

    B. $165 - 45 - 70 = c$

    C. $45 + 70 + 165 = c$

    D. $165 - 45 + 70 = c$

10. Mr. Brown has 7 more boys in his class than Miss Takata. Which expression shows the number of boys in Mr. Brown's class if Miss Takata has *b* boys?

    A. $7 \div b$

    B. $7b$

    C. $7 - b$

    D. $b + 7$

11. What is the name of an angle that measures 100°?

    A. straight

    B. obtuse

    C. acute

    D. right

12. How many degrees are in a straight angle?
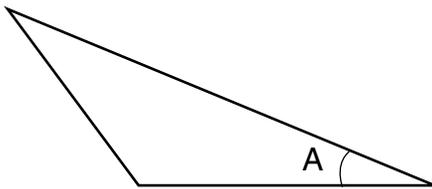
    A. 90°

    B. 45°

    C. 180°

    D. 360°

Diagnostic Test *(cont.)*

Directions: Circle the best answer for each of the following questions.

13. What is the sum of the interior angles of a rectangular piece of paper?

   A. 360°

   B. 180°

   C. 90°

   D. 135°

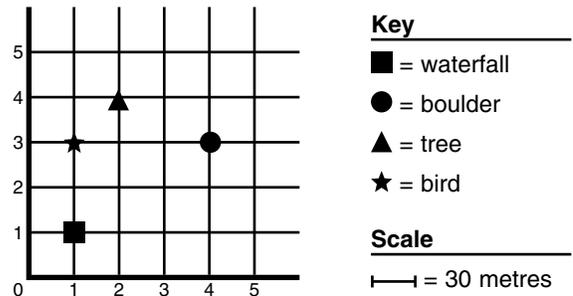**14.** What is the name of angle *A* in the triangle below?

   A. acute

   B. right

   C. straight

   D. obtuse

15. Angelina is taking batting lessons. If her instructor tells her to make a 110° angle between her bat and her arm, what is the name of the angle that Angelina is making?

   A. right

   B. acute

   C. straight

   D. obtuse

Use the map below to hike to different sites and answer questions 16–20.

Key

■ = waterfall

● = boulder

▲ = tree

★ = bird

Scale

⊢——⊣ = 30 metres

16. What will you see at coordinates (1, 3)?

   A. a waterfall

   B. a boulder

   C. a tree

   D. a bird

17. What will you see at coordinates (4, 3)?

   A. a waterfall

   B. a boulder

   C. a tree

   D. a bird

Diagnostic Test *(cont.)*

Directions: Circle the best answer for each of the following questions.

18. What are the coordinates of the bird?

A. (1, 1)

B. (4, 3)

C. (2, 4)

D. (1, 3)

19. What is the distance from the waterfall to the bird?

A. 60 metres

B. 30 metres

C. 10 metres

D. 2 metres

20. What is the distance from the boulder to the bird?

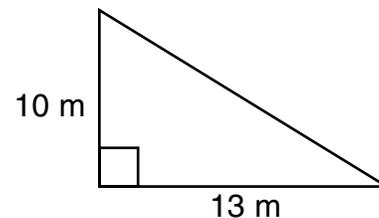A. 3 metres

B. 90 metres

C. 40 metres

D. 10 metres

21. Kenny's laptop is 38 cm long and 24 cm wide. What is the perimeter of the laptop?

A. 62 cm

B. 912 cm

C. 124 cm

D. 224 cm

22. The handball court at school has a width of 20 metres and a length of 15 metres. What is the area of the handball court?

A. 70 metres

B. 300 metres

C. 70 square metres

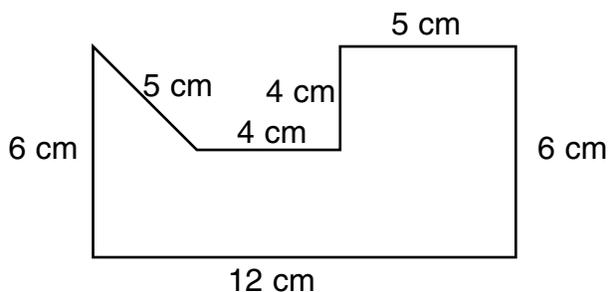D. 300 square metres

23. What is the area of the triangle below?

A. 65 m^2

B. 13 m^2

C. 33 m^2

D. 130 m^2

Diagnostic Test *(cont.)*

Directions: Circle the best answer for each of the following questions.

Use the figure below to answer questions 24–25.

5 cm

5 cm   4 cm

4 cm

6 cm   6 cm

12 cm

24. What is the perimeter of the figure above?

    A. 32 cm

    B. 60 cm

    C. 42 cm

    D. 50 cm

25. What is the area of the figure above? *Hint*: Divide the figure above into regular shapes.

    A. 50 cm^2

    B. 42 cm^2

    C. 60 cm^2

    D. 32 cm^2

26. Mark has a box of candy. The box is 10 cm long, 5 cm wide, and 4 cm high. What is the volume of the candy box?

    A. 500 cm^3

    B. 19 cm^3

    C. 50 cm^3

    D. 200 cm^3

27. If the volume of a water tank is 390 cubic metres, the width of the water tank is 6 metres, and the length of the water tank is 13 metres, what is the height of the water tank?

    A. 19 metres

    B. 5 metres

    C. 371 metres

    D. 78 metres

28. If 1,000 litress of water fill 1 cubic metre in an aquarium, how much water is needed to fill an aquarium with a volume of 6 cubic metres?

    A. 60,000 litres

    B. 6,000 litres

    C. 600 litres

    D. 60 litres

Diagnostic Test *(cont.)*

Directions: Circle the best answer for each of the following questions.

29. If 1,000 litres of water fill 1 cubic metre in a water tank, how much water is needed to fill a water tank with a volume of 60 cubic metres?

A. 60,000 L

B. 10,000 L

C. 6,000 L

D. 100,000 L

30. If the volume of a moving box is 9,000 cm^3, the height of the box is 20 cm, and the length of the box is 15 cm, what is the width of the box?

A. 30 cm

B. 450 cm

C. 33 cm

D. 300 cm

Use the table of student absences at Garden Elementary recorded for a week to answer questions 31–33.

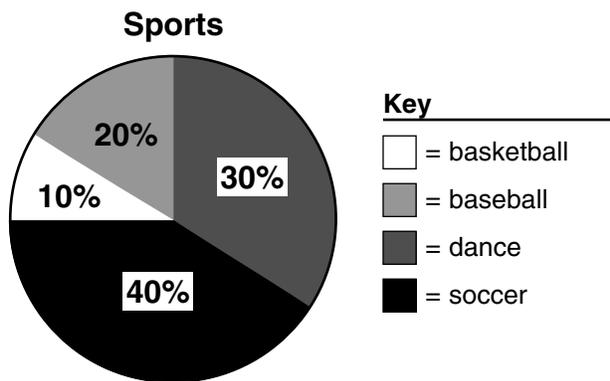| Mon.	Tues.	Wed.	Thurs.	Fri.
18	12	20	15	35

31. Which day had the most absences?

A. Friday

B. Wednesday

C. Thursday

D. Monday

32. What is the range of the absences?

A. 35 absences

B. 18 absences

C. 47 absences

D. 23 absences

33. What is the difference in absences between Tuesday and Wednesday?

A. 32 absences

B. 8 absences

C. 12 absences

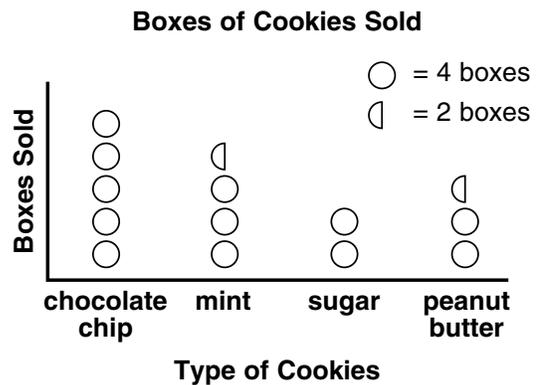D. 2 absences

Diagnostic Test *(cont.)*

Directions: Circle the best answer for each of the following questions.

Marita questioned 50 people to find out their favorite sport. Use the circle graph to answer questions 34–35.

Sports

Key

☐ = basketball

▨ = baseball

▨ = dance

■ = soccer

34. How many people liked soccer best?

A. 30 people

B. 25 people

C. 40 people

D. 20 people

35. How many people liked dance best?

A. 30 people

B. 20 people

C. 15 people

D. 10 people

Use the pictograph below showing the number of boxes of cookies sold by Taryn to answer questions 36–38.

Boxes of Cookies Sold

Type of Cookies

36. How many boxes of sugar cookies were sold?

A. 2 boxes

B. 4 boxes

C. 6 boxes

D. 8 boxes

37. What is the difference between the number of boxes of peanut butter cookies sold and the number of boxes of chocolate chip cookies sold?

A. 12 boxes

B. 2.5 boxes

C. 10 boxes

D. 8 boxes

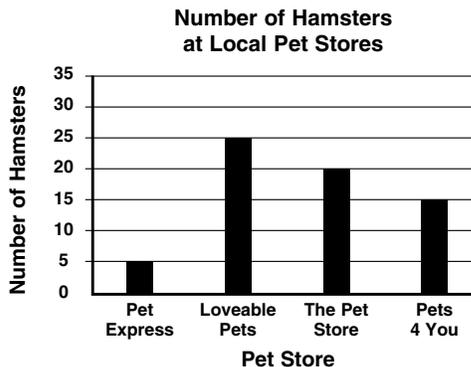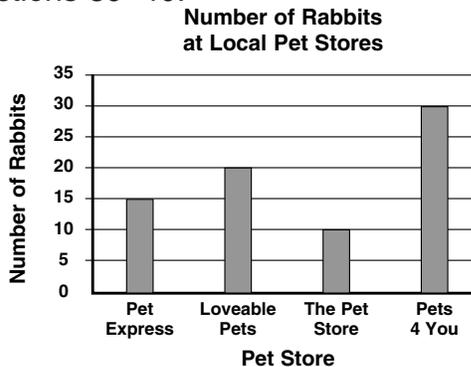# Diagnostic Test *(cont.)*

Directions: Circle the best answer for each of the following questions.

38. If each box of cookies was sold for $3.00, how much money did Taryn collect for the mint cookies?

    A. $42.00

    B. $9.50

    C. $10.50

    D. $48.00

Use the bar graphs below to answer questions 39–40.

Number of Rabbits at Local Pet Stores

Number of Hamsters at Local Pet Stores

39. How many rabbits and hamsters combined does Pet Express have?

    A. 20 rabbits and hamsters

    B. 25 rabbits and hamsters

    C. 5 rabbits and hamsters

    D. 15 rabbits and hamsters

40. Together, do the stores have more rabbits or hamsters?

    A. same number of rabbits and hamsters

    B. more rabbits

    C. more hamsters

    D. not enough information to determine answer