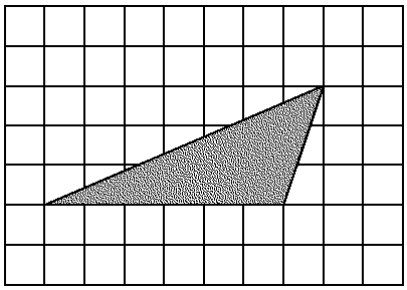
unit 4 Test

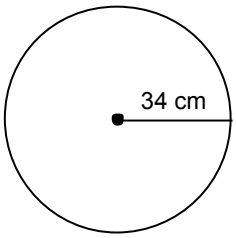
Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Olivia builds a triangular sand pit that sits in the middle of a rectangular playground. Find the fraction of playground occupied by the sand pit.



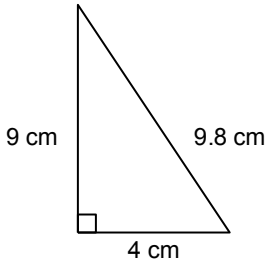
a. $\frac{9}{35}$ b. $\frac{9}{70}$ c. $\frac{3}{10}$ d. $\frac{9}{61}$

____ 2. Find the circumference of this circle. Leave π in your answer.



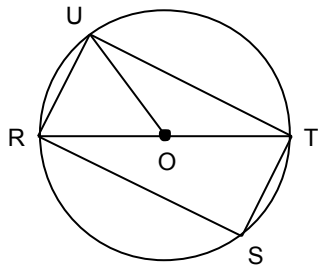
a. 34π cm b. 136π cm. c. 68π cm d. 17π cm

____ 3. Find the area of this triangle.



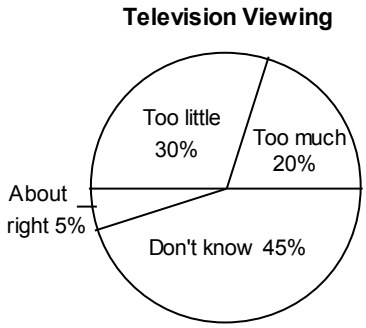
a. 39.2 cm^2 b. 19.6 cm^2 c. 18 cm^2 d. 36 cm^2

____ 4. Identify all the diameters drawn in this circle.



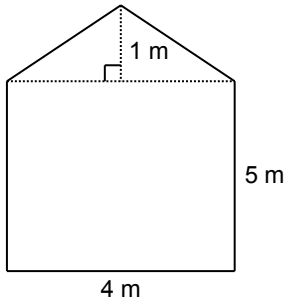
a. OU, OR,
b. OR, OT, OU
c. RS, 0T
d. RT

____ 5. Miss. Hand's class was asked whether they spend too much or too little time watching television. The circle graph shows the responses of 120 students.
How many students thought they watched too little television?



a. 36 students
b. 84 students
c. 24 students
d. 6 students

____ 6. What is the area of the front of Greg's house?



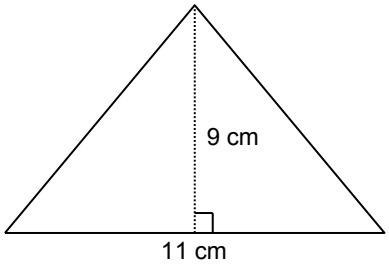
a. 8 m^2
b. 22 m^2
c. 24 m^2
d. 20 m^2

____ 7. The distance around Earth at the equator is about 40 074 km.
Find the diameter at the equator of Earth. Round your answer to the nearest kilometre.
a. 25 512 km
b. 12 756 km
c. 62 884 km
d. 6 339 700 km

____ 8. Find the area of a parallelogram with base 100 cm and height 42 cm.
a. 4200 cm^2
b. 8400 cm^2
c. 284 cm^2
d. 142 cm^2

____ 9. The circumference of a circle is 21 cm.
Calculate the radius. Round your answer to one decimal place.
a. 3.6 cm
b. 10.5 cm
c. 6.7 cm
d. 3.3 cm

____ 11. Emily is making a cookies with this triangular shape. She plans to cut out 54 triangles from the cookie dough. What is the total area of the cookie dough Emily will use?

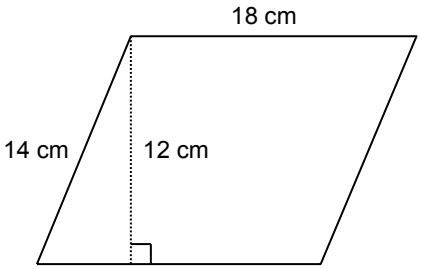


a. 2673 cm^2 b. 49.5 cm^2 c. 99 cm^2 d. 1080 cm^2

____ 13. A circle has radius 14 cm. What is the diameter?

a. 28 cm b. 7 cm c. 56 cm d. 14 cm

____ 14. Find the area of this parallelogram.



a. 216 cm^2 b. 252 cm^2 c. 168 cm^2 d. 64 cm^2

____ 15. A group of students attending an outdoor school were asked for their favourite activity.

Activity	Number of Students
Kayaking	16
Climbing	10
Hiking	6
Sailing	8

Write the number of students who voted for each activity as percents.

a.

Activity	Percent
Kayaking	40%
Climbing	25%
Hiking	15%
Sailing	20%

c.

Activity	Percent
Kayaking	4%
Climbing	2.5%
Hiking	1.5%
Sailing	2%

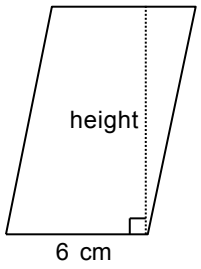
b.

Activity	Percent
Kayaking	2.9%
Climbing	2.8%
Hiking	2.7%
Sailing	2.7%

d.

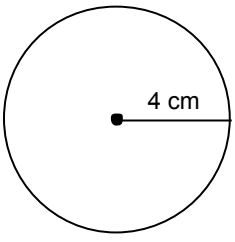
Activity	Percent
Kayaking	144%
Climbing	90%
Hiking	54%
Sailing	72%

____ 16. Use the area to find the height.
$A = 48 \text{ cm}^2$



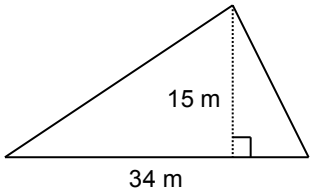
a. 8 cm b. 42 cm c. 20 cm d. 24 cm

____ 17. Find the area of this circle. Leave π in your answer.



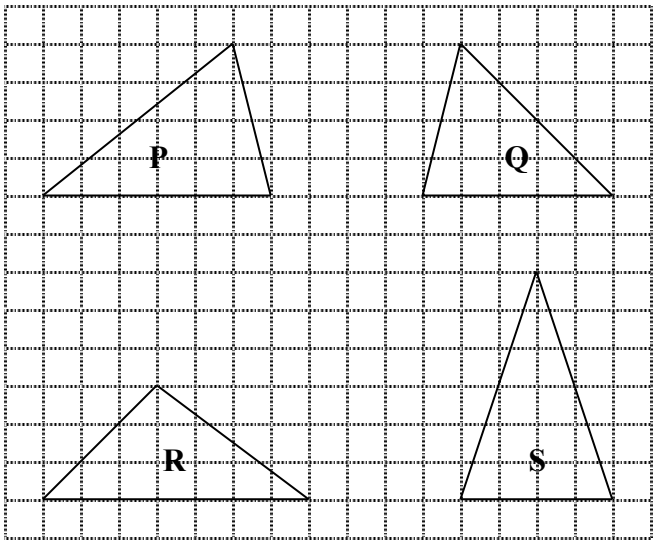
a. $25\pi \text{ cm}^2$ b. $13\pi \text{ cm}^2$ c. $16\pi \text{ cm}^2$ d. $50\pi \text{ cm}^2$

____ 18. Find the area of this triangle.



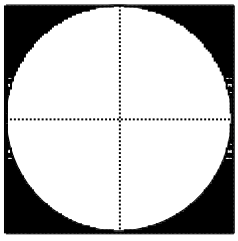
a. 98 m^2 b. 255 m^2 c. 49 m^2 d. 68 m^2

____ 19. Which triangle has an area of 10 square units?



a. Q b. P c. R d. S

____ 20. The circle inside the square has diameter 8 m.
Find the total area of the shaded regions.
Round your answer to one decimal place- show your work



a. 3.4 m^2 b. 50.3 m^2 c. 13.7 m^2 d. 64.0 m^2

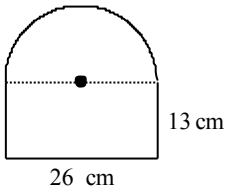
Short Answer

21. This table shows the results of a survey on how students get to school.
A circle graph is to be used to display the data.
- Find the percent for each mode of transportation.
- Calculate the sector angles to the nearest degree, for each method of transportation
- Draw a percent circle.

Transportation	Number of Students
Bus	39
Bike	12
Walk	25
Car	24

Bonus question

23. Find the perimeter of the figure. Round your answer to one decimal place.



unit 4
Answer Section

MULTIPLE CHOICE

1. ANS: B PTS: 1 DIF: Moderate REF: 4.4 Area of a Triangle
   LOC: 7.SS2 TOP: Shape and Space (Measurement) KEY: Problem-solving Skills
2. ANS: C PTS: 1 DIF: Easy REF: 4.2 Circumference of a Circle
   LOC: 7.SS1 TOP: Shape and Space (Measurement) KEY: Conceptual Understanding
3. ANS: C PTS: 1 DIF: Easy REF: 4.4 Area of a Triangle
   LOC: 7.SS2 TOP: Shape and Space (Measurement) KEY: Procedural Knowledge
4. ANS: D PTS: 1 DIF: Moderate REF: 4.1 Investigating Circles
   LOC: 7.SS1 TOP: Shape and Space (Measurement) KEY: Conceptual Understanding
5. ANS: A PTS: 1 DIF: Moderate REF: 4.6 Interpreting Circle Graphs
   LOC: 7.SP3 TOP: Statistics and Probability (Data Analysis)
   KEY: Procedural Knowledge
6. ANS: B PTS: 1 DIF: Moderate REF: 4.4 Area of a Triangle
   LOC: 7.SS2 TOP: Shape and Space (Measurement) KEY: Problem-solving Skills
7. ANS: B PTS: 1 DIF: Moderate REF: 4.2 Circumference of a Circle
   LOC: 7.SS1 TOP: Shape and Space (Measurement) KEY: Problem-solving Skills
8. ANS: A PTS: 1 DIF: Easy REF: 4.3 Area of a Parallelogram
   LOC: 7.SS2 TOP: Shape and Space (Measurement) KEY: Procedural Knowledge
9. ANS: D PTS: 1 DIF: Moderate REF: 4.2 Circumference of a Circle
   LOC: 7.SS1 TOP: Shape and Space (Measurement) KEY: Procedural Knowledge
10. ANS: A PTS: 1 DIF: Moderate REF: 4.3 Area of a Parallelogram
    LOC: 7.SS2 TOP: Shape and Space (Measurement) KEY: Procedural Knowledge
11. ANS: A PTS: 1 DIF: Moderate REF: 4.4 Area of a Triangle
    LOC: 7.SS2 TOP: Shape and Space (Measurement) KEY: Problem-solving Skills
12. ANS: D PTS: 1 DIF: Difficult REF: 4.1 Investigating Circles
    LOC: 7.SS1 TOP: Shape and Space (Measurement) KEY: Problem-solving Skills
13. ANS: A PTS: 1 DIF: Easy REF: 4.1 Investigating Circles
    LOC: 7.SS1 TOP: Shape and Space (Measurement) KEY: Procedural Knowledge
14. ANS: A PTS: 1 DIF: Moderate REF: 4.3 Area of a Parallelogram
    LOC: 7.SS2 TOP: Shape and Space (Measurement) KEY: Procedural Knowledge
15. ANS: A PTS: 1 DIF: Easy REF: 4.7 Drawing Circle Graphs
    LOC: 7.N3|7.SP3 TOP: Number | Statistics and Probability (Data Analysis)
    KEY: Procedural Knowledge
16. ANS: A PTS: 1 DIF: Moderate REF: 4.3 Area of a Parallelogram
    LOC: 7.SS2 TOP: Shape and Space (Measurement) KEY: Procedural Knowledge
17. ANS: C PTS: 1 DIF: Easy REF: 4.5 Area of a Circle
    LOC: 7.SS1|7.SS2 TOP: Shape and Space (Measurement) KEY: Conceptual Understanding
18. ANS: B PTS: 1 DIF: Easy REF: 4.4 Area of a Triangle
    LOC: 7.SS2 TOP: Shape and Space (Measurement) KEY: Procedural Knowledge
19. ANS: A PTS: 1 DIF: Moderate REF: 4.4 Area of a Triangle
    LOC: 7.SS2 TOP: Shape and Space (Measurement) KEY: Procedural Knowledge
20. ANS: C PTS: 1 DIF: Moderate REF: 4.5 Area of a Circle
    LOC: 7.SS1|7.SS2 TOP: Shape and Space (Measurement) KEY: Problem-solving Skills

SHORT ANSWER

21. ANS:
Bus: $140°$
Bike: $43°$
Walk: $90°$
Car: $86°$

PTS: 1 DIF: Easy REF: 4.7 Drawing Circle Graphs
LOC: 7.N3|7.SP3 TOP: Number | Statistics and Probability (Data Analysis)
KEY: Procedural Knowledge

22. ANS:
Area of large pizza: 1018 cm^2
Area of medium pizza: 707 cm^2
Difference in area: 311 cm^2

PTS: 1 DIF: Moderate REF: 4.5 Area of a Circle
LOC: 7.SS1|7.SS2 TOP: Shape and Space (Measurement) KEY: Problem-solving Skills

PROBLEM

23. ANS:
Semicircle: $\frac{\pi \times 26}{2} \doteq 40.8$
$P = 40.8 + 13 + 26 + 13 = 92.8$
The perimeter is about 92.8 cm.

PTS: 1 DIF: Difficult REF: 4.2 Circumference of a Circle
LOC: 7.SS1 TOP: Shape and Space (Measurement) KEY: Problem-solving Skills