

Placement Test for *Math in Focus 5B*

1. Consider the number 15.275. Then answer the questions.
 - a. What digit is in the tenths place? _____
 - b. What digit is in the hundredths place? _____
 - c. What is the difference between this number and 15.2? _____

2. Solve using mental math.

- | | |
|------------------------------|--------------------------------|
| a. $0.25 \times 100 =$ _____ | b. $0.009 \times 1000 =$ _____ |
| c. $9.37 \div 100 =$ _____ | d. $0.005 \div 0.01 =$ _____ |
| e. $300 \times 0.7 =$ _____ | f. $140 \div 0.07 =$ _____ |

3. A rope is 10 meters long. If it were cut into 4 equal pieces, how long would each piece be? Write your answer as a decimal number.



Each piece would be _____ meters long.

4. 300 animals are in the shelter. 35% of the animals are cats. How many cats are there in the shelter?



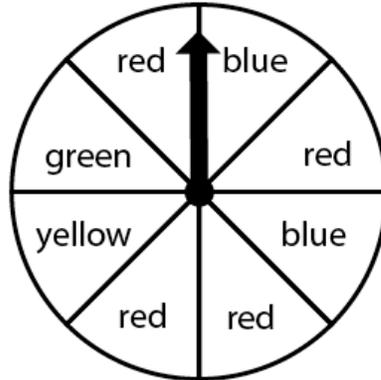
There are _____ cats.

5. Mr. Lee earns \$3,500 a month. He spends 50% of it, saves 30% of the remainder, and the rest is spent on rent. How much is his rent?

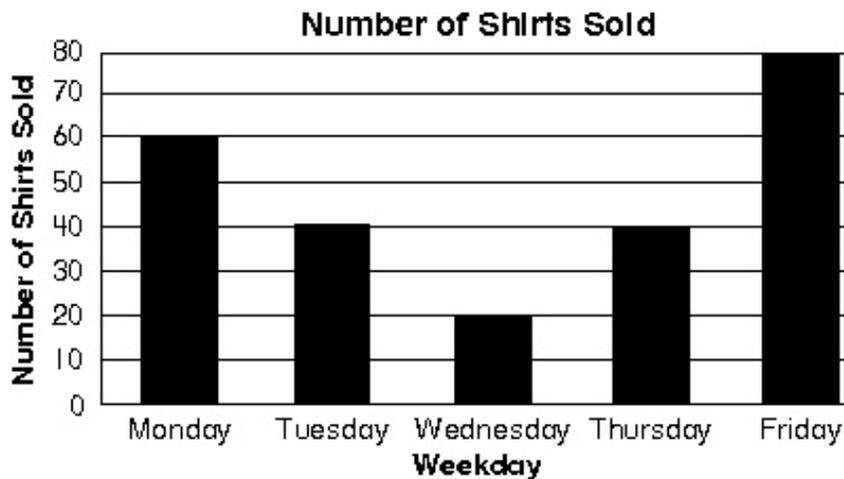


His rent is \$_____.

6. Look at the spinner. Express each probability as a fraction in its simplest form.



- a. The probability of landing on red is _____.
- b. The probability of landing on blue is _____.
- c. The probability of landing on yellow is _____.
7. The graph shows the number of shirts a store sold over five days.



- a. How many shirts were sold on Tuesday? _____
- b. How many more shirts were sold on Friday than Wednesday? _____
- c. What is the total number of shirts sold? _____
- d. What is the average number of shirts sold each day? _____

8. Find the equivalent measures.

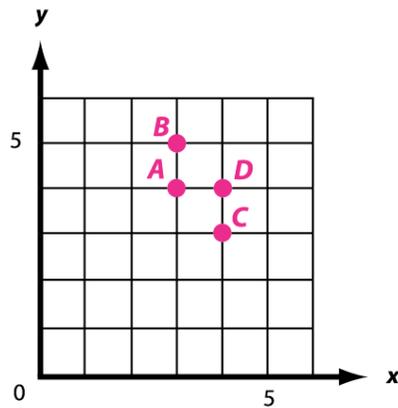
a. $0.6 \text{ m} = \underline{\hspace{2cm}} \text{ cm}$

b. $5.25 \text{ lb} = \underline{\hspace{2cm}} \text{ oz}$

c. $45 \text{ ml} = \underline{\hspace{2cm}} \text{ L}$

d. $0.25 \text{ feet} = \underline{\hspace{2cm}} \text{ inches}$

9. What ordered pairs are represented on this grid?



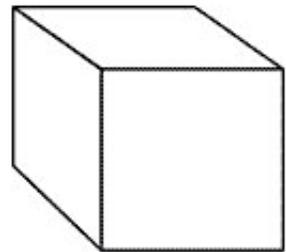
a. $B = \underline{\hspace{2cm}}$

b. $A = \underline{\hspace{2cm}}$

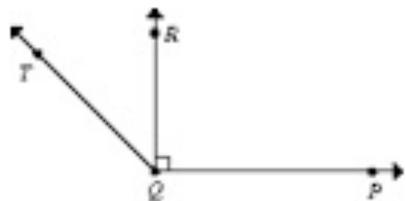
c. $D = \underline{\hspace{2cm}}$

d. $C = \underline{\hspace{2cm}}$

10. The length of one side of a cube is 2 yards. What is its volume in cubic feet?

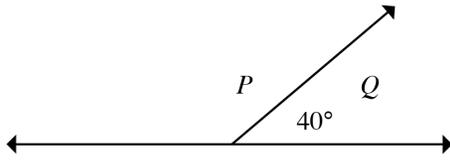


11. Name the right angle.



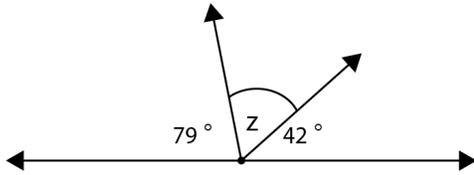
\angle

12. Find the measure of $\angle P$.



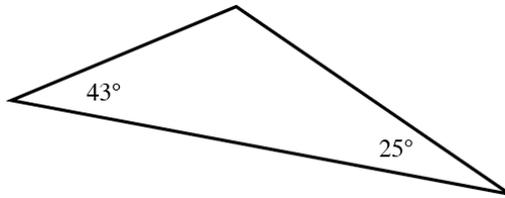
$\angle P =$ _____

13. Find the measure of $\angle Z$.

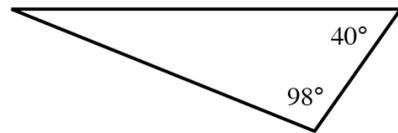


$\angle Z =$ _____

14. Find the unknown angle measures in these triangles.

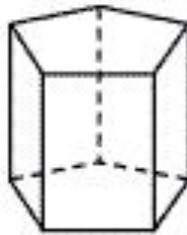


a.



b.

15. Study this solid shape. Then answer the questions.



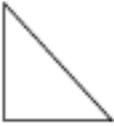
a. How many faces does this shape have? _____

b. How many vertices does this shape have? _____

c. What shape is the base of this solid shape? _____

d. What shape are its side faces? _____

16. Draw lines to match the shapes with their names.

	•	• rhombus
	•	• octagon
	•	• hexagon
	•	• right triangle
	•	• scalene triangle
	•	• trapezoid

17. Which of these solid shapes does not have any flat surfaces? Circle your answer.

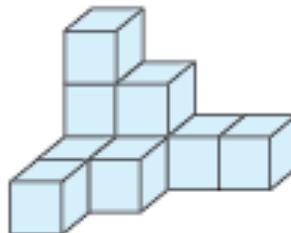
cone

cylinder

sphere

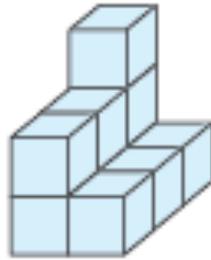
prism

18. How many cubes make up this solid shape?

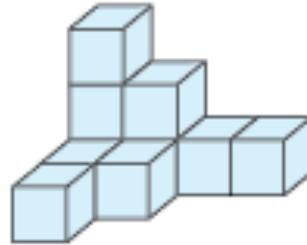


_____ cubes make up this solid shape.

19. Which of the statements below is true? _____



Shape 1.



Shape 2.

- a. Shape 1 is made up of more cubes than Shape 2.
- b. Shape 2 is made up of more cubes than Shape 1.
- c. Shape 1 and Shape 2 are made up of the same number of cubes.

20. Draw lines to match the unfolded patterns with the shapes they form.

	•	•	
	•	•	
	•	•	
	•	•	

21. Charlotte is x years old. Van is 3 times as old as Charlotte. Selena is 2 years older than Van.

a. Express Selena's age in terms of x .

_____ years

b. If Charlotte is 4 years old, how old is Selena? _____

22. Simplify the following.

a. $19a + 14 - 7a - 5$ _____

b. $y + 7y - 2y$ _____

23. Find the value of the expression $174 - 2y^2$ when y is 9. _____

24. Solve.

a. $(-4) + (-33) =$ _____

b. $14 + (-5) =$ _____

c. $(-27) + 9 =$ _____

d. $65 + (-25) + 13 =$ _____

e. $55 - 75 =$ _____

f. $-8 + 64 - 41 =$ _____

25. Express the following as percentages.

a. $0.49 =$ _____% b. $\frac{3}{15} =$ _____% c. 225 out of 900 = _____%

26. Find the missing numbers in this set of equivalent ratios.

$4 : \underline{\hspace{1cm}} : 6 = \underline{\hspace{1cm}} : 9 : 18$

Math in Focus 5B Placement Test Answer Key

Point values are indicated in parentheses next to each item number; 100 points total.

1. (6 points)

- a. 2
- b. 7
- c. 0.075

2. (6 points)

- a. 25
- b. 9
- c. 0.0937
- d. 0.5
- e. 210
- f. 2,000

3. (2 points)

Each piece would be 2.5 meters long.

4. (2 points)

There are 105 cats.

5. (2 points)

His rent is \$1,225.

6. (6 points)

- a. $\frac{1}{2}$
- b. $\frac{1}{4}$
- c. $\frac{1}{8}$

7. (4 points)

- a. 40
- b. 60
- c. 240
- d. 48

8. (8 points)

- a. 60
- b. 84
- c. 0.045
- d. 3

9. (8 points)

- a. 3, 5
- b. 3, 4
- c. 4, 4
- d. 4, 3

10. (2 points)

216 ft.³

11. (2 points)

$\angle RQP$ or $\angle PQR$

12. (2 points)

140°

13. (2 points)

59°

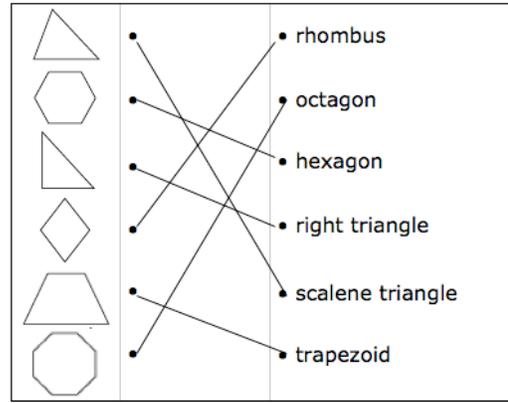
14. (4 points)

- a. 112°
- b. 42°

15. (8 points)

- a. 7
- b. 10
- c. pentagon
- d. rectangle

16. (6 points)



17. (2 points)

sphere

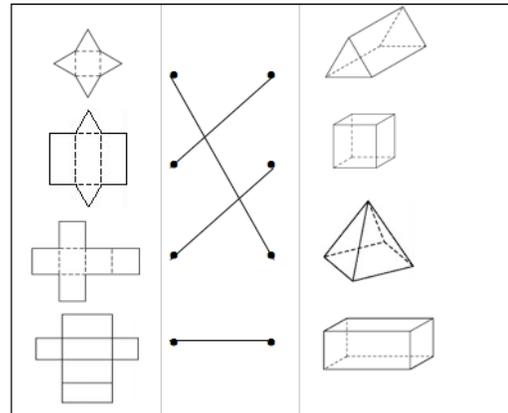
18. (2 points)

10 cubes make up this solid shape.

19. (2 points)

c

20. (2 points)



21. (2 points)
a. $(3x + 2)$ years
b. 14
22. (6 points)
a. $12a + 9$
b. $6y$
23. (2 points)
12
24. (6 points)
a. -37
b. 9
c. -18
d. 53
e. -20
f. 15
25. (6 points)
a. 49%
b. 20%
c. 25%
26. (4 points)
 $4 : 3 : 6 = 12 : 9 : 18$