Exercise 6A – 1

Types of Angles

- acute angle
- right angle
- obtuse angle
- straight angle
- complementary angle
- Supplementary angle
- adjacent angle
- vertical angle

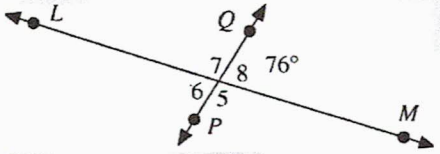
Find the measure of a complement of an angle of the given measure

1. 15°
2. 79°
3. 60°
4. 33°
5. 30°
6. 5°
7. 29°
8. 87°

Find the measure of a supplement of an angle of the given measure

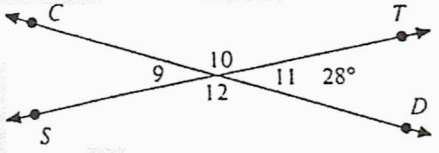
9. 41°
10. 145°
11. 88°
12. 27°
13. 10°
14. 65°
15. 102°
16. 90°

Use the figure at the right. Give the measure of each angle.



17. ∠5
18. ∠6
19. ∠7
20. ∠8

Use the figure at the right. Give the measure of each angle.



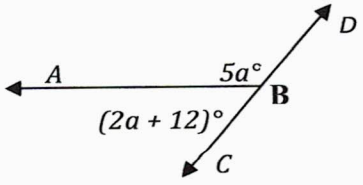
21. ∠9
22. ∠10
23. ∠11
24. ∠12

*FINDING PAIRS OF ANGLES : **Use equation***

25. Angle *XYZ* has the same measure as its complement. Find in ∠*XYZ* .
26. The angles are supplementary and the larger is twice the smaller.
27. The angles are complementary and the larger is 20° more than the smaller.
28. The angles are adjacent and form an angle of 120°. The larger is 20° less than three times the smaller.
29. The angles are vertical and complementary.
30. The angles are adjacent, forming an angle of 88°. One is 36° more than the other.
31. The angles are complementary. One is twice as large as the other.
32. The angles are supplementary. One is 60° less than twice the other.
33. The angles are two angles of a triangle whose third angle measures 40°. The difference of the angles is 24°.

In each figure, find $m\angle ABC$.

34.



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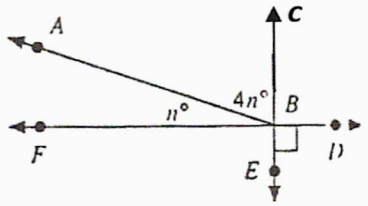


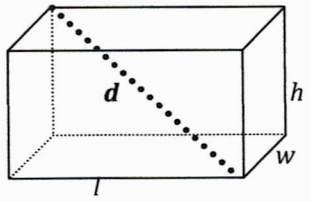
1.	2.	3.	4.
5.	6.	7.	8.
9.	10.	11.	12.
13.	14.	15.	16.
17.			18.
19.			20.
21.			22.
23.			24.
25.			
26.			
27.			
28.			
29.			
30.			
31.			
32.			
33.			
34.			
35.			

Exercise 5A – 10

4

The length of the three-dimensional diagonal

The square of a three-dimensional diagonal is equal to the sum of the square of each dimension of the rectangular solid.

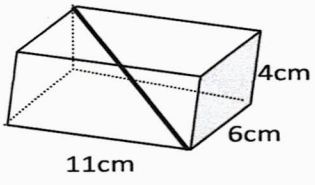


$$d^2 = l^2 + w^2 + h^2$$

$$d = \sqrt{l^2 + w^2 + h^2}$$

Determine the length of the three- dimension diagonal in the given rectangular solid using each Pythagorean Theorem. (Answer to nearest tenth)

1.



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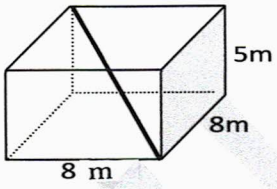

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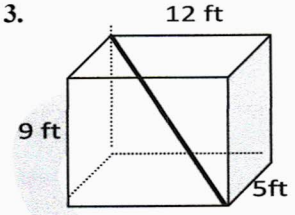

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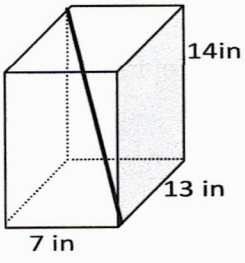

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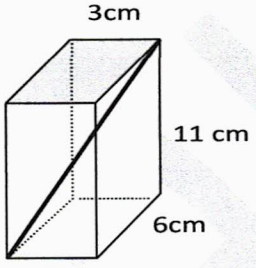

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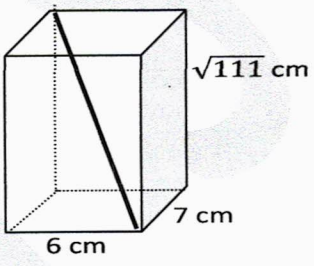

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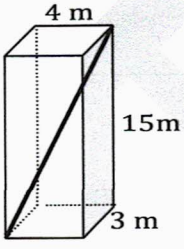

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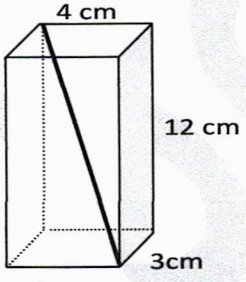

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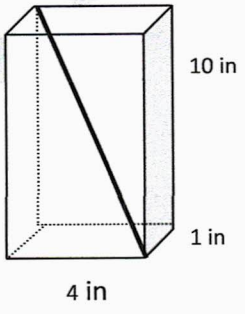
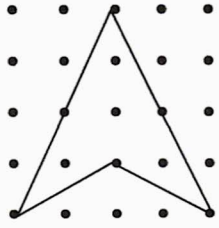
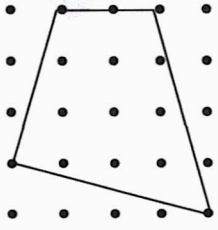
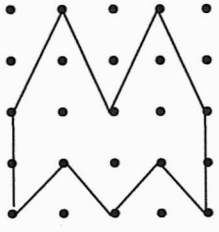
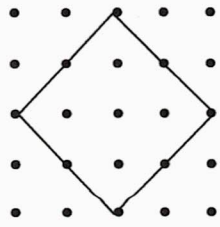
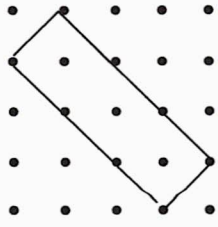
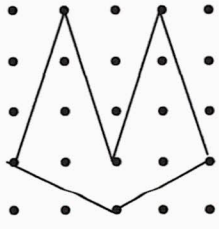


1.
2.
3.
4.
5.
6.
7.
8.
9.

Find the perimeter for each shape (Answer to nearest hundrenth)

10. 	11. 	12. 	10. 11. 12.
13. 	14. 	15. 	13. 14. 15.

Exercise 5C - 7

1. A rectangle is formed by connecting eight squares. The perimeter of a square is 16 in.

1.	2.	3.	4.
5.	6.	7.	8.

(a) What is the length of each side of a square?

(b) What is the length of the rectangle?

(c) What is the width of the rectangle?

(d) What is the area of the rectangle?

(e) What is the perimeter of the rectangle?

2. There are two squares. Square A has a length of 15 of each side. Square B has a larger perimeter than Square A by 20 in.

(a) What is the perimeter of square A?

(b) What is the perimeter of Square B?

(c) What the length of each side Square B?

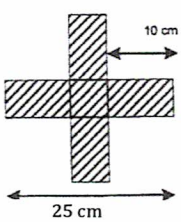
(d) What is the area of Square A?

(e) What is the area of Square B?

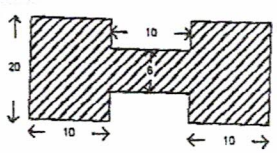
(f) What is the difference of the two areas?

3. Find the perimeter and area for each figure.

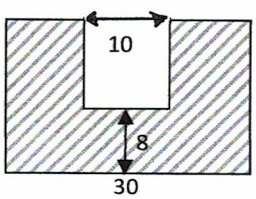
a.



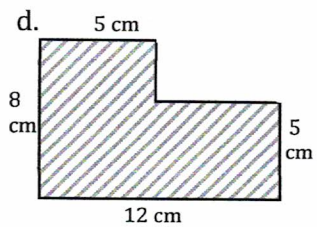
b. unit m



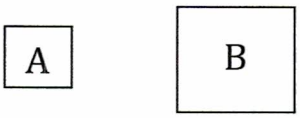
c. unit inch



d.



4. There are two squares: Square A has a perimeter of 80 in. Square B has a large perimeter than Square A by 20 in.



(a) What is the length of each side of Square A?

(b) What is the area of Square A?

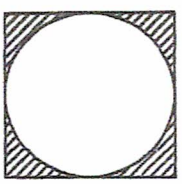
(c) What is the perimeter of Square B?

(d) What is the length of each side of Square B?

(e) What is the area of Square B?

(f) What is the difference of two areas?

5. A square has a side 20 in. Inside the square, there is a circle.



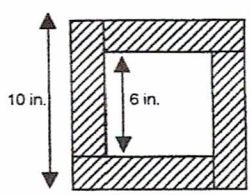
(a) What is the area of the square?

(b) What is the area of the circle?

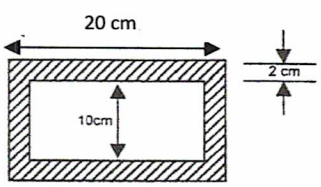
(c) What is the area of the shaded part?

6. Find the area of each of the figures?

a



b.



1a	1b
1c	1d
1e	
2a	2b
2c	2d
2e	2f
3a Area	Perimeter
3b Area	Perimeter
3c Area	Perimeter
3d Area	Perimeter
4a	4b
4c	4d
4e	4f
5a	
5b	
5c	
6a	
6b	

Exercise SAT3A – 6

4

Proportions

1. A roll of metal ribbon that weighs 12 pounds is cut into two pieces. One piece is 75 feet long and weighs 9 pounds. What was the length, in feet, of the original roll?
   (A) 60 (B) 90 (C) 100 (D) 120 (E) 150

2. A car traveling at a constant 50 miles per hour covers the same distance in one hour as a car traveling at a constant 25 miles per hour for how many hours?
   (A) $\frac{1}{3}$ (B) $\frac{1}{2}$ (C) 1 (D) 2 (E) 3

3. A recipe calls for three eggs and two cups of milk. If a quantity of the recipe is prepared using eight eggs, how many cups of milk should be used?
   (A) 4 (B) $4\frac{2}{3}$ (C) $5\frac{1}{3}$ (D) $5\frac{1}{2}$ (E) $5\frac{2}{3}$

4. If 8 pounds of coffee cost \$50, how much do 12 pounds of coffee cost?
   (A) \$25.00 (B) \$62.50 (C) \$75.00 (D) \$80.00 (E) \$84.00

5. Three printing presses can finish a certain job in 60 minutes. How many minutes will it take five such printing presses to do the same job?
   (A) 15 (B) 20 (C) 30 (D) 36 (E) 100

6. If 4 gallons of water occupy 30 cubic feet of space, how many gallons are needed to fill a tank with a capacity of 360 cubic feet?
   (A) 12 (B) 24 (C) 30 (D) 36 (E) 48

7. A repair shop can paint three cars every four hours. At that rate, how many hours will it take the shop to paint five cars?
   (A) $6\frac{1}{3}$ (B) $6\frac{2}{3}$ (C) $7\frac{1}{3}$ (D) $7\frac{1}{2}$ (E) $7\frac{3}{4}$

8. If a machine seals cans at the rate of $4\frac{1}{2}$ cans every three seconds, how many minutes will it take the machine to seal 720 cans?
   (A) 6 (B) 8 (C) 18 (D) 36 (E) 48

9. At a certain factory, it takes five metal fasteners to attach a muffler to a car. If a box containing 500 fasteners costs \$42, how much will it cost to buy the exact number of fasteners needed to attach 300 mufflers?
   (A) \$14 (B) \$36 (C) \$56 (D) \$126 (E) \$4,200

10. In a certain population, only 0.03 percent of the people have physical trait X. On the average, it will be necessary to screen how many people to find six with trait X?
    (A) 180 (B) 200 (C) 1,800 (D) 2,000 (E) 20,000

11. Walking at a constant rate of 4 miles per hour, it takes Jill exactly one hour to walk home from school. If she walks at a constant rate of 5 miles per hour, how many minutes will the trip take?
    (A) 48 (B) 54 (C) 56 (D) 72 (E) 112

12. At a certain school, 45 percent of the students purchased a yearbook. If 540 students purchased yearbooks, how many students did not buy a yearbook?
    (A) 243 (B) 540 (C) 575 (D) 660 (E) 957

13. If 4.5 pounds of chocolate cost \$10, how many pounds of chocolate can be purchased for \$12?
    (A) $4\frac{3}{4}$ (B) $5\frac{2}{5}$ (C) $5\frac{1}{2}$ (D) $5\frac{3}{4}$ (E) 6

14. For a certain student, the average of ten test scores is 80. If the high and low scores are dropped, the average is 81. What is the average of the high and low
    (A) 76 (B) 78 (C) 80 (D) 81 (E) 82

15. If the average of 35, 38, 41, 43, and x is 37, what is x?
    (A) 28 (B) 30 (C) 31 (D) 34 (E) 36

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.

4

Exercise 3A - 2

4

A . Solving Equations

1. $x + 1 = -3$
2. $y + 6 = 4$
3. $x + 2 = 0$
4. $-x + 4x = 9$
5. $-2x + 3x = 7$
6. $3x - 2x = -11$
7. $4a = 3a - 3$
8. $4x = -20$
9. $-5x = -40$
10. $-3y = 24$
11. $2x = 4 - 6$
12. $2y - 5y = -9$
13. $-x = 11$
14. $2y - 7y = -15$
15. $5n - 7n = 10$

1.	2.	3.
4.	5.	6.
7.	8.	9.
10.	11.	12.
13.	14.	15.

B

1. $x + 2 = -4$
2. $x + 6 = 3$
3. $y + 12 = -12$
4. $y - 12 = 12$
5. $a - 3 = -2$
6. $3x = -15$
7. $-4x = 12$
8. $-6x = 18$
9. $5y - 3y = -1$
10. $5x - 2x = -18$
11. $15x = -45 + 30$
12. $3x - 2x = -2$
13. $-x + 2x = 9$
14. $-n + 4n = 15$
15. $-2n + 5n = 12$
16. $-x + 5x = 16$
17. $-2a + 6a = 12$
18. $-2n + 3n = -12$
19. $4c - 3c = -6$
20. $4x + 7 = 3x$
21. $2n + 5 = n$
22. $3y + 4 = 2y$
23. $7y - 2 - 5y = 0$
24. $-6m + 5 = -7m$
25. $-3x - 8 = -5x$
26. $3x + 1 = 2x$
27. $6y + 4 = 4y$
28. $-14 = -6x - 2$
29. $2n + 16 = n + 2$
30. $-3x + 2 = -x + 4$
31. $2x - (3x + 2) = -7$
32. $5y - (2y - 1) = -2$
33. $-x - (5x - 7) = -5$
34. $7 - (2 - x) = -4$
35. $6 - (4 - x) = 3x$
36. $2x - (3 - x) = x - 7$
37. $2y - 7y = -15 - (2y - 3)$

1.	2.	3.
4.	5.	6.
7.	8.	9.
10.	11.	12.
13.	14.	15.
16.	17.	18.
19.	20.	21.
22.	23.	24.
25.	26.	27.
28.		29.
30.		31.
32.		33.
34.		35.
36.		37.