

1. [+ Whole Numbers to 10]

	9	-24	8	26	13	7	81	2	10	-15
+ 8	17	-16	16	34	21	15	89	10	18	-7

2. [- Whole Numbers to 10]

	74	1	45	12	-9	7	30	13	8	-26
- 6	68	-5	39	6	-15	1	24	7	2	-32

3. [× Whole Numbers to 12]

	7	11	5	3	6	-4	9	12	10	8
× 4	28	44	20	12	24	-16	36	48	40	32

4. [+ Whole Numbers to 12]

	36	54	81	108	63	72	45	-27	9	90
÷ 9	4	6	9	12	7	8	5	-3	1	10

5. [Large Number +, -] \*

$$923 + 405 + 312 =$$

1640

6. [Large Number ×, ÷] \*

$$142 \times 120 =$$

17,040

7. [Decimal +, -] \*

$$37.85 + 5 + 0.9 =$$

43.75

8. [Decimal ×, ÷] \*

$$0.08 \times 0.3 =$$

0.024

9. [Fraction +, -] \*

$$\frac{4}{5} - \frac{1}{3} =$$

 $\frac{7}{15}$ 

10. [Fraction ×, ÷] \*

$$\frac{1}{9} \div \frac{4}{5} =$$

 $\frac{5}{36}$ 

11. [Percents] \*

Write as a percent:  
5 out of 25.

20%

12. [Decimals / Fractions / Percents]

Complete the table:

Decimal	Fraction	Percent
0.03	$\frac{3}{100}$	3%

13. [Integers]

$$8 \times (-9) =$$

-72

14. [Rates / Ratios] \*

Lightning reaches a temperature four times greater than the sun's surface. Find the ratio of the sun's surface to lightning temperature.

1 : 4

15. [Exponents / Square Roots] \*

$$2^6 =$$

64

16. [Order of Operations] \*

$$-3 \times 4 + 2^3 \times 2 =$$

4

17. [Exploring Number]

$5.8 \times 10^7$  is the scientific notation for:

- A) 58,000,000  
B) 5.80000000  
C) 580,000,000

A

18. [Multiples / Factors / Primes] \*

Express 27 as a product of its prime factors using exponential notation.

$$27 = 3^3$$

19. [Number Patterns] \*

Find the 13th term in the pattern:

18, 17, 16, 15, 14, ...

6

20. [Expressions]

Simplify  
 $2s + s + 4t - t$

3s + 3t

21. [Substitution] \*

If  $j = 6$ ,  
find the value of  
 $2(3 + j)$

18

22. [Equations] \*

Solve for  $y$ :  
 $3 \cdot y = 21$

y = 7

## MATH'S MATE



## Term 4 - Sheet 1

Name: .....

Due Date: ..... / ..... / .....

Parent's Signature: .....

## QUOTE OF THE WEEK

The wise man knows that he knows nothing; the fool believes he knows everything.  
Rossiter

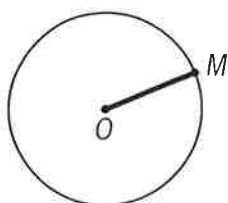
23. [Graphs & Functions]

Complete the table of values for the function rule  $y = x - 3$

$x$	$y = x - 3$	$y$
0	$y = 0 - 3 = -3$	-3
1	$y = 1 - 3 = -2$	-2
2	$y = 2 - 3 = -1$	-1
3	$y = 3 - 3 = 0$	0
4	$y = 4 - 3 = 1$	1
5	$y = 5 - 3 = 2$	2

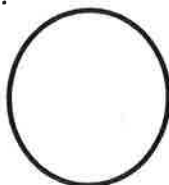
24. [Shapes]

Draw the radius passing through  $M$ .



25. [Exploring Geometry]

Circle the shape which does **not** have rotational symmetry.

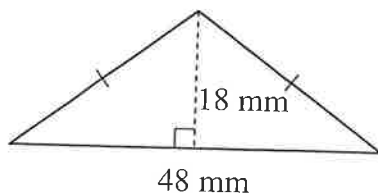


26. [Units of Measurement / Time] \*

80 m = 0.08 km

27. [Perimeter] \*

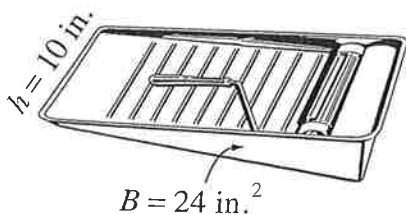
Calculate the perimeter of this isosceles triangle. [Hint: Pythagorean theorem will help.]



108 mm

28. [Area / Volume] \*

Find the volume of the tray in the shape of a triangular prism.



240 in.³

29. [Statistics] \*

This stem-and-leaf plot shows the number of floors of the twenty tallest buildings in the world. Find the median and range of the data.

Stem	Leaf
5	4 4
6	6 8 9
7	0 8
8	0 3 6 8 8 8 8
9	6
10	1 1 2 3 8

$4 | 3 = 43$

median = 87

range = 54

30. [Probability] \*

A test has five True/False questions. If you answer each question with True or False and leave none of them blank, in how many ways can you answer the whole test?

32

31. [Problem Solving 1] \*

Peter and David live 18 miles apart. They leave their homes at 1:00 P.M. riding bicycles toward each other. Peter averages 4 mph and David averages 5 mph. At what time do they meet?



3:00 P.M.

32. [Problem Solving 2] \*

Four consecutive whole numbers are added. If the smallest one is  $n - 1$ , what is the sum of the four integers?

4n + 2

33. [Problem Solving 3] \*

If  $n$  is an integer, which of the following must be an odd integer?

- A)  $3n$
- B)  $n^2 + 3$
- C)  $n + 3$
- D)  $2n^2 + 3$

D

## MATH'S MATE



Term 4 - Sheet 2

Name: .....

Due Date: ..... / ..... / .....

Parent's Signature: .....

QUOTE OF THE WEEK

Selfishness is a gift of nature. Unselfishness is an accomplishment.  
Joseph Mayer

1. [+ Whole Numbers to 10]

	81	3	-10	42	19	-6	-27	14	8	35
+ 9	90	12	-1	51	28	3	-18	23	17	44

2. [- Whole Numbers to 10]

	16	-69	12	38	-7	73	10	-15	4	21
- 8	8	-77	4	30	-15	65	2	-23	-4	13

3. [× Whole Numbers to 12]

	9	5	12	6	3	10	11	8	7	-4
× 12	108	60	144	72	36	120	132	96	84	-48

4. [+ Whole Numbers to 12]

	44	24	8	40	-16	28	12	36	-32	20
÷ 4	11	6	2	10	-4	7	3	9	-8	5

5. [Large Number +, -] \*

$$234 + 1409 + 56 + 138 =$$

1837

6. [Large Number ×, ÷] \*

$$324 \times 260 =$$

84,240

7. [Decimal +, -] \*

$$42.19 + 1.3 + 0.58 =$$

44.07

8. [Decimal ×, ÷] \*

$$0.7 \times 0.41 =$$

0.287

9. [Fraction +, -] \*

$$\frac{3}{4} + \frac{1}{5} =$$

 $\frac{19}{20}$ 

10. [Fraction ×, ÷] \*

$$\frac{5}{6} \div \frac{2}{5} =$$

 $2\frac{1}{12}$ 

11. [Percents] \*

At the Beijing Olympics, 4 of the 16 medals won by the Netherlands were bronze. What percent is this?

25%

12. [Decimals / Fractions / Percents] \*

Complete the table:

Decimal	Fraction	Percent
0.2	$\frac{1}{5}$	20%

13. [Integers]

$$-6 \times (-6) =$$

36

14. [Rates / Ratios] \*

Rainforests represent 6% of the land on earth, and contain half of all living things. Find the ratio of rainforests to other habitats.

3:47

15. [Exponents / Square Roots] \*

$$7^3 =$$

343

16. [Order of Operations] \*

$$(-4 - 1)^2 \times 4 \div 1 =$$

100

17. [Exploring Number]

The diameter of a red blood cell is  $4.1 \times 10^{-5}$  inches. Write this number in standard form.

0.000041

18. [Multiples / Factors / Primes] \*

Express 80 as a product of its prime factors using exponential notation.

$$80 = 2^4 \cdot 5$$

19. [Number Patterns] \*

Find the 15th term in the pattern:

3, 13, 23, 33, 43, ...

143

20. [Expressions]

Simplify

$$5v + 2v - v + 3w$$

$$6v + 3w$$

21. [Substitution] \*

If  $k = 9$ , find the value of  $3(k - 8)$

3

22. [Equations] \*

Solve for  $f$ :

$$5f = 20$$

$$f = 4$$

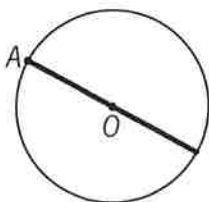
**23.** [Graphs & Functions]

Complete the table of values for the function rule  $y = 5x$

$x$	$y = 5x$	$y$
0	$y = 5 \cdot 0 = 0$	0
1	$y = 5 \cdot 1 = 5$	5
2	$y = 5 \cdot 2 = 10$	10
3	$y = 5 \cdot 3 = 15$	15
4	$y = 5 \cdot 4 = 20$	20
5	$y = 5 \cdot 5 = 25$	25

**24.** [Shapes]

Draw the diameter passing through A.



**25.** [Exploring Geometry]

Which shapes have rotational symmetry?

A)                      B)                      C)                      D)

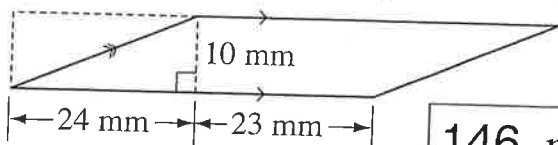
**A & D**

**26.** [Units of Measurement / Time] \*

330 mm = **0.33** m

**27.** [Perimeter] \*

Calculate the perimeter of this parallelogram. [Hint: Pythagorean theorem will help.]

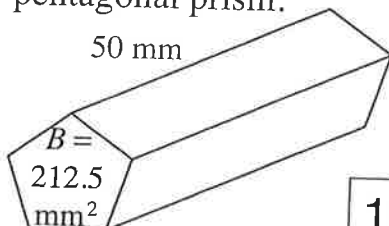


**146 mm**

**28.** [Area / Volume] \*

Using  $V = Bh$  find the volume of the pentagonal prism.

50 mm



**10,625 mm³**

**29.** [Statistics] \*

This stem-and-leaf plot shows the mean annual snowfall for Montana resorts. Find the median of the data.

Stem	Leaf
1	4 5 8 8
2	1 4 5 5 5
3	0 0 0 0 5
4	0 1

$2|6 = 260 \text{ in.}$

**25**

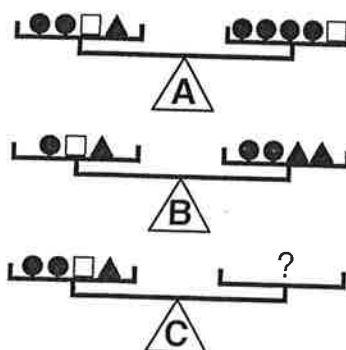
**30.** [Probability] \*

One quarter, one dime and one six-sided die are tossed. How many results are possible?

**24**

**31.** [Problem Solving 1] \*

How many spheres must be placed on the right side of scale C to make it balance?



**7**

**32.** [Problem Solving 2] \*

A computer is programmed to scan the digits of the counting numbers. For example, if it scans

1 2 3 4 5 6 7 8 9 10 11 12 13  
then it has scanned 17 digits all together. If the computer begins its task and scans the first 1392 digits starting with 1, what is the last counting number scanned?

**500**

**33.** [Problem Solving 3] \*

Eight soccer teams play each other once during a tournament. Two points are awarded for each win, one for each draw and zero for each loss. How many points must a team score to be sure that it will finish in the top four?

[The team must finish with more points than at least four other teams.]

**11**

1. [+ Whole Numbers to 10]

	-8	12	15	-34	9	87	3	10	-31	26
+ 6	-2	18	21	-28	15	93	9	16	-25	32

2. [- Whole Numbers to 10]

	56	4	77	3	-10	31	9	12	15	-28
- 7	49	-3	70	-4	-17	24	2	5	8	-35

3. [× Whole Numbers to 12]

	9	6	12	8	4	11	-5	3	10	7
× 9	81	54	108	72	36	99	-45	27	90	63

4. [+ Whole Numbers to 12]

	40	20	80	110	50	90	60	70	-30	120
÷ 10	4	2	8	11	5	9	6	7	-3	12

5. [Large Number +, -] \*

$$4539 + 216 + 541 =$$

5296

6. [Large Number ×, ÷] \*

$$107 \times 3800 =$$

406,600

7. [Decimal +, -] \*

$$22.31 + 4.9 + 0.248 =$$

27.458

8. [Decimal ×, ÷] \*

$$0.15 \times 0.6 =$$

0.09

9. [Fraction +, -] \*

$$\frac{3}{7} + \frac{1}{2} =$$

 $\frac{13}{14}$ 

10. [Fraction ×, ÷] \*

$$\frac{1}{2} \div \frac{3}{8} =$$

 $1\frac{1}{3}$ 

11. [Percents] \*

Of the approximately 225 species of shark, 18 are dangerous to man. What percent is this?

8%

12. [Decimals / Fractions / Percents] \*

Complete the table:

Decimal	Fraction	Percent
0.8	$\frac{80}{100} = \frac{4}{5}$	80%

13. [Integers]

$$-5 \times 7 =$$

-35

14. [Rates / Ratios] \*

A hockey rink is 200 ft long and 85 ft wide. Find the ratio of length to width.

40:17

15. [Exponents / Square Roots]

$$5^0 =$$

1

16. [Order of Operations] \*

$$3^2 + (3 + 4) \times (-2) =$$

-5

17. [Exploring Number]

The size of a water molecule is  $2.78 \times 10^{-10}$  meters. Write this number in standard form.

0.000000000278

18. [Multiples / Factors / Primes] \*

Express 132 as a product of its prime factors using exponential notation.

$$132 = 2^2 \cdot 3 \cdot 11$$

19. [Number Patterns] \*

Find the 10th term in the pattern:

1, 8, 27, 64, ...

1000

20. [Expressions]

Simplify

$$2m + 3p - p + m$$

$$3m + 2p$$

21. [Substitution] \*

If  $p = 7$ , find the value of  $p(2 + p)$

63

22. [Equations] \*

Solve for  $p$ :

$$8p = -64$$

$$p = -8$$

## MATH'S MATE



Term 4 - Sheet 3

Name: .....

Due Date: ..... / ..... / .....

Parent's Signature: .....

QUOTE OF THE WEEK

Happiness is like coke; something you get as a by-product in the process of making something else.  
Aldous Huxley

**23.** [Graphs & Functions]

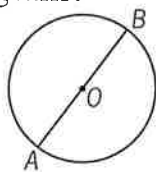
Complete the table of values for the function rule  $y = 10 - x$

$x$	$y = 10 - x$	$y$
5	$y = 10 - 5 = 5$	5
6	$y = 10 - 6 = 4$	4
7	$y = 10 - 7 = 3$	3
8	$y = 10 - 8 = 2$	2
9	$y = 10 - 9 = 1$	1
10	$y = 10 - 10 = 0$	0

**24.** [Shapes]

What is  $\overline{AB}$  in this diagram?

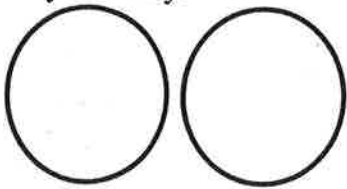
- A) radius
- B) circumference
- C) diameter
- D) tangent



**C**

**25.** [Exploring Geometry]

Circle the shapes which have rotational symmetry.

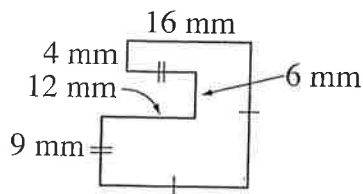


**26.** [Units of Measurement / Time] \*

350 cm = **3.5** m

**27.** [Perimeter] \*

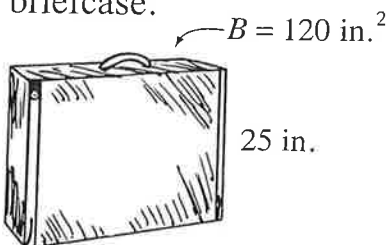
Calculate the perimeter of this shape.



**94 mm**

**28.** [Area / Volume] \*

Using  $V = Bh$  find the volume of the briefcase.



**3000 in.³**

**29.** [Statistics] \*

This stem-and-leaf plot shows the number of annual vacation days for the 12 largest countries in the world. Find the median of the data.

Stem	Leaf
1	3 5
2	0 0 5 5 7 8
3	4 5 7
4	2

$1|0 = 10$

**26**

**30.** [Probability] \*

A deli has a lunch menu consisting of one sandwich, one dessert and one drink. How many lunch combinations are possible from the following choices?

sandwich: salad, ham, tuna, roast beef

dessert: cookie, pie

drink: tea, coffee, lemonade, water

**32**

**31.** [Problem Solving 1] \*

At a convention for lawyers it was known that of the 100 present, at least one was honest, yet if you met any two of the lawyers, you could guarantee that at least one of the two would be crooked. How many honest lawyers were present?

**1**

**32.** [Problem Solving 2] \*

The fraction of girls in our class has risen from  $\frac{3}{7}$  to  $\frac{1}{2}$  with the arrival of the

Henderson triplet girls.

How many students are there in our class now?



**24**

**33.** [Problem Solving 3] \*

On Monday, the escalator was not working. It took Tom 18 seconds to reach the top, climbing two steps each second. By Tuesday the escalator had been repaired and Tom took only 12 seconds to reach the top climbing at the same rate. On Wednesday Tom decided to ride the escalator without climbing at all. How long did it take to reach the top this time?

**36 s**

# MATH'S MATE



## Term 4 - Sheet 4

1. [+ Whole Numbers to 10]

	31	10	-18	24	19	52	-3	87	15	6
+ 4	35	14	-14	28	23	56	1	91	19	10

2. [- Whole Numbers to 10]

	81	-37	4	60	5	29	12	-8	16	3
- 3	78	-40	1	57	2	26	9	-11	13	0

3. [x Whole Numbers to 12]

	5	9	-8	6	3	7	11	-4	12	10
x 8	40	72	-64	48	24	56	88	-32	96	80

4. [+ Whole Numbers to 12]

	60	45	40	50	25	35	-55	20	15	-30
÷ 5	12	9	8	10	5	7	-11	4	3	-6

5. [Large Number +, -] \*

$$5378 + 1948 + 366 =$$

7692

6. [Large Number x, ÷] \*

$$209 \times 1500 =$$

313,500

7. [Decimal +, -] \*

$$4.5 + 27 + 2.503 =$$

34.003

8. [Decimal x, ÷] \*

$$1.03 \times 0.9 =$$

0.927

9. [Fraction +, -] \*

$$\frac{5}{12} - \frac{2}{5} =$$

$\frac{1}{60}$

10. [Fraction x, ÷] \*

$$\frac{3}{10} \div \frac{2}{5} =$$

$\frac{3}{4}$

11. [Percents] \*

An elephant weighs 5000 kg. It eats 150 kg of food each day. What percent of its own weight does an elephant eat each day?

3%

12. [Decimals / Fractions / Percents] \*

Complete the table:

Decimal	Fraction	Percent
0.94	$\frac{47}{50}$	94%

13. [Integers]

$$-3 \times (-9) =$$

27

14. [Rates / Ratios] \*

In America the size of a typical home has increased from 1100 ft<sup>2</sup> to 1800 ft<sup>2</sup> over the past ten years. Find the ratio of house area today compared to ten years ago.

18:11

15. [Exponents / Square Roots] \*

$$6^3 =$$

216

16. [Order of Operations] \*

$$1 + (-2)^3 \div (-5 + 4) =$$

9

17. [Exploring Number]

$4.2 \times 10^{-6}$  is the scientific notation for:

- A) 0.00000042  
B) 0.000042  
C) 0.0000042

C

18. [Multiples / Factors / Primes] \*

Express 300 as a product of its prime factors using exponential notation.

$$300 = 2^2 \cdot 3 \cdot 5^2$$

19. [Number Patterns] \*

Find the 20th term in the pattern:

$$\frac{1}{20}, \frac{1}{19}, \frac{1}{18}, \frac{1}{17}, \dots$$

1

20. [Expressions]

Simplify  $4q + 3 + q - 2$

$5q + 1$

21. [Substitution] \*

If  $e = -8$ , find the value of  $3(e - 1)$

-27

22. [Equations] \*

Solve for  $x$ :

$$\frac{x}{10} = 2$$

$x = 20$



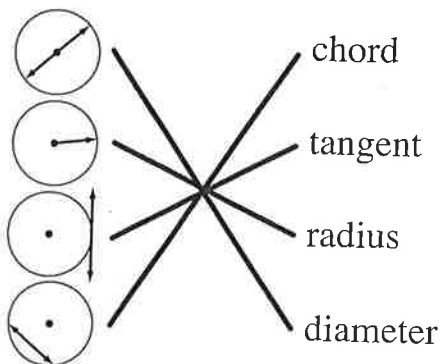
**23.** [Graphs & Functions]

Complete the table of values for the function rule  $y = x + 4$

$x$	$y = x + 4$	$y$
1	$y = 1 + 4 = 5$	5
2	$y = 2 + 4 = 6$	6
3	$y = 3 + 4 = 7$	7
4	$y = 4 + 4 = 8$	8
5	$y = 5 + 4 = 9$	9
6	$y = 6 + 4 = 10$	10

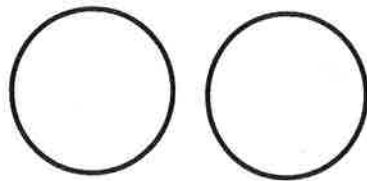
**24.** [Shapes]

Match each diagram to its description:



**25.** [Exploring Geometry]

Circle the shapes which have rotational symmetry.

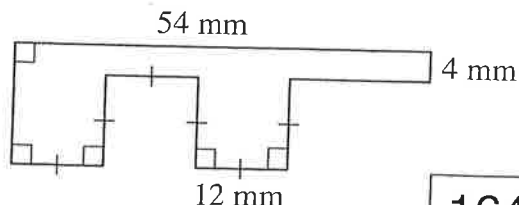


**26.** [Units of Measurement / Time] \*

3.5 km = **350,000** cm

**27.** [Perimeter] \*

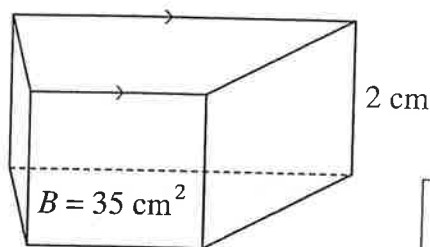
Calculate the perimeter of this shape.



**164 mm**

**28.** [Area / Volume] \*

Using  $\text{Volume} = \text{area of the base} \times \text{height}$ , find the volume of the prism.



**70 cm<sup>3</sup>**

**29.** [Statistics] \*

Complete the stem-and-leaf plot for the data showing the number of stations on each of Japan's monorails:

15, 4, 19, 16, 18, 13, 2, 8, 10, 2

Stem	Leaf
0	<u>2</u> <u>2</u> <u>4</u> <u>8</u>
1	<u>0</u> <u>3</u> <u>5</u> <u>6</u> <u>8</u> <u>9</u>

0 | 5 = 5

**30.** [Probability] \*

In how many ways can five books be arranged on a shelf?



**120**

**31.** [Problem Solving 1] \*

A gardener wants to fence the largest possible rectangular area using 200 yards of fencing. Find the best length and width of the garden.

**50 yd  $\times$  50 yd**

**32.** [Problem Solving 2] \*

Michelle has \$12.30 in her purse in 1¢, 5¢, 10¢ and 25¢ coins. If she has an equal number of each coin type, how many coins does Michelle have in her purse all together?

**120**

**33.** [Problem Solving 3] \*

Using my faucet, it takes 6 minutes to fill our water tank. Using the neighbor's hose, it takes 9 minutes. How long would it take if I used both the faucet and the hose?

**3 min 36 s**



**MATH'S MATE**

## Term 4 - Sheet 5

Name: .....

Due Date: ..... / ..... / .....

Parent's Signature: .....

QUOTE OF THE WEEK

There is hope for anyone who can look in the mirror and laugh at what he sees.

1. [+ Whole Numbers to 10]

	23	14	-71	10	-9	2	16	8	-25	67
+ 5	28	19	-66	15	-4	7	21	13	-20	72

2. [- Whole Numbers to 10]

	6	17	29	24	10	2	-25	21	-3	88
- 9	-3	8	20	15	1	-7	-34	12	-12	79

3. [x Whole Numbers to 12]

	-3	8	7	-11	6	9	4	12	5	10
x 6	-18	48	42	-66	36	54	24	72	30	60

4. [+ Whole Numbers to 12]

	49	-70	28	42	7	63	84	35	-56	21
÷ 7	7	-10	4	6	1	9	12	5	-8	3

5. [Large Number +, -] \*

$74 + 2092 - 777 =$

**1389**

6. [Large Number x, ÷] \*

$3477 \div 2 =$

**1738.5**

7. [Decimal +, -] \*

$8 - 0.7 =$

**7.3**

8. [Decimal x, ÷] \*

$2 \div 0.4 =$

**5**

9. [Fraction +, -] \*

$5\frac{5}{9} - 3\frac{2}{9} =$

 **$2\frac{1}{3}$** 

10. [Fraction x, ÷] \*

$\frac{3}{2} \times \frac{2}{9} =$

 **$\frac{1}{3}$** 

11. [Percents] \*

Roger made \$25 profit on the stamp collection costing him \$125. What was his profit as a percent of the cost price?

**20%**

12. [Decimals / Fractions / Percents] \*

Which is greater?

$\frac{3}{10}$  or 3%

 **$\frac{3}{10}$** 

13. [Integers]

$48 \div (-8) =$

**-6**

14. [Rates / Ratios] \*

A honey bee has two pairs of wings that can beat 250 times/second. At this rate how many beats are recorded in a minute?

**15,000 beats**

15. [Exponents / Square Roots] \*

$(-8)^2 =$

**64**

16. [Order of Operations] \*

$\sqrt{36 + 64} =$

**10**

17. [Exploring Number]

Which numbers are rational?

A) -3

B)  $\frac{7}{8}$

C)  $\sqrt{18}$

D)  $\pi$

**A and B**

18. [Multiples / Factors / Primes] \*

The number 9 has exactly three factors: 1, 3 and 9. Find the next number after 9 that has exactly three factors.

**25**

19. [Number Patterns] \*

If the general rule of a pattern is  $n + 2$  find the 15th term ( $n = 15$ ).

**17**

20. [Expressions]

Write as an expression: The sum of  $a$  and  $c$

 **$a + c$** 

21. [Substitution] \*

Use  $D = rt$  to find the distance ( $D$ ) where  $r = 6$  and  $t = 9$

**54**

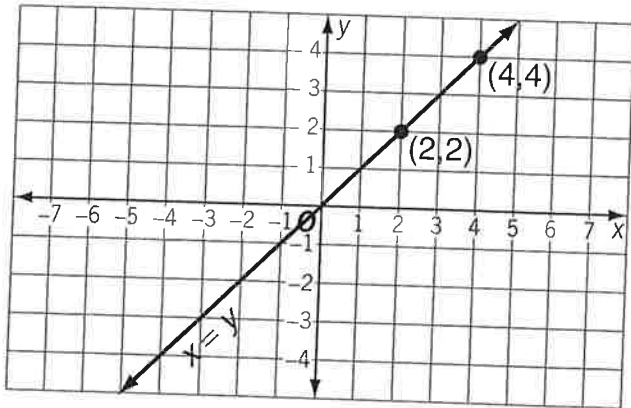
22. [Equations] \*

Solve for  $x$ :  
 $2x + 3 = 9$

 **$x = 3$**

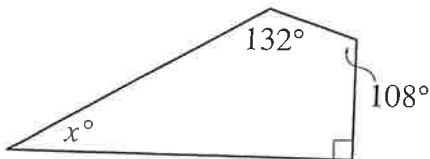
23. [Graphs & Functions]

Draw the line where  $x = y$ .



24. [Shapes] \*

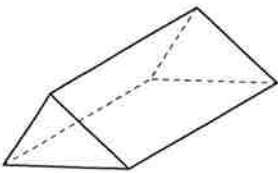
Find the value of  $x^\circ$ .



30°

25. [Exploring Geometry]

What shape is the cross section drawn through this prism?



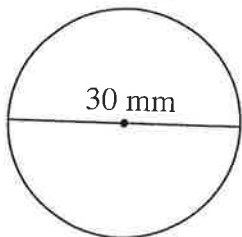
triangle

26. [Units of Measurement / Time] \*

3 gal 3 qt = 15 qt

27. [Perimeter] \*

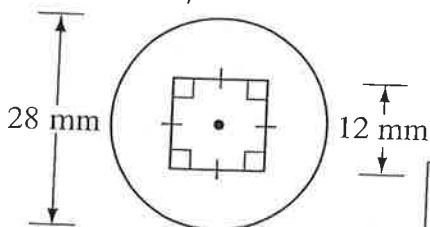
Using  $\pi \approx 3.14$  calculate the circumference of the circle.



94.2 mm

28. [Area / Volume] \*

Using  $\pi \approx \frac{22}{7}$  find the shaded area.

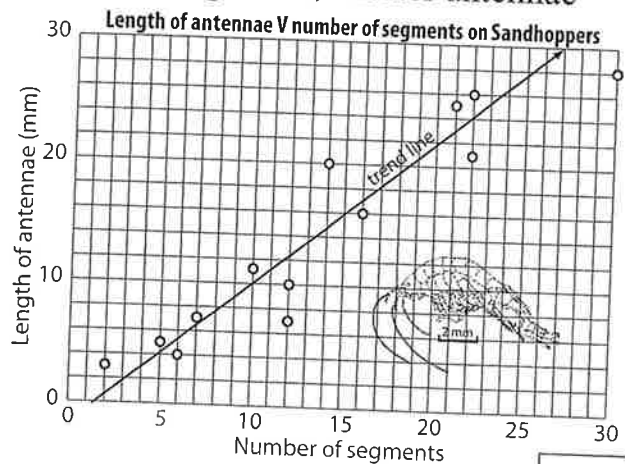


472 mm<sup>2</sup>

29. [Statistics]

Which best describes the trend line?

- A) More segments, longer antennae
- B) Less segments, longer antennae
- C) More segments, shorter antennae



A

30. [Probability] \*

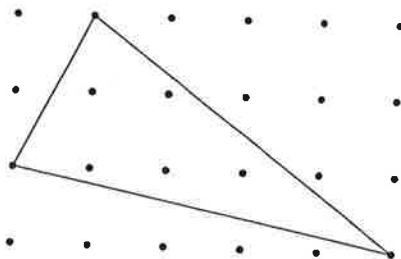
A bag contains 6 white, 2 black and 10 green marbles. If a marble is selected at random, find the probability that it is a black or a green marble.

or 0.6

$\frac{2}{3}$

31. [Problem Solving 1] \*

What is the area of the triangle in square centimeters?



Area = 1 cm<sup>2</sup>

5  $\frac{1}{2}$  cm<sup>2</sup>

32. [Problem Solving 2] \*

A math test consists of ten questions. Ten points are given for each correct answer, and three points are deducted for each incorrect answer. If Sue attempted all the questions and scored 61 points, how many correct answers did she give?

7

33. [Problem Solving 3] \*

A clock gains 4 minutes every hour. One day it is set to the correct time, 9:00 A.M. What is the correct time when the clock shows 1:00 P.M. that afternoon?

12:45 P.M.

# MATH'S MATE



## Term 4 - Sheet 6

Name: .....

Due Date: ..... / ..... / .....

Parent's Signature: .....

## QUOTE OF THE WEEK

Fashion - That which is unwearable until everyone else is wearing it, by which time it is unfashionable.  
Rossiter

1. [+ Whole Numbers to 10]

	-9	24	13	-37	28	-1	12	6	15	60
+ 7	-2	31	20	-30	35	6	19	13	22	67

2. [- Whole Numbers to 10]

	25	74	-9	18	27	22	3	10	-21	46
- 6	19	68	-15	12	21	16	-3	4	-27	40

3. [× Whole Numbers to 12]

	3	10	11	5	8	-6	12	9	4	7
× 8	24	80	88	40	64	-48	96	72	32	56

4. [+ Whole Numbers to 12]

	24	108	84	-48	132	120	-36	72	60	96
÷ 12	2	9	7	-4	11	10	-3	6	5	8

5. [Large Number +, -] \*

$$527 + 8473 - 583 =$$

8417

6. [Large Number ×, ÷] \*

$$1042 \div 5 =$$

208.4

7. [Decimal +, -] \*

$$2 - 0.64 =$$

1.36

8. [Decimal ×, ÷] \*

$$7 \div 0.2 =$$

35

9. [Fraction +, -] \*

$$2\frac{1}{4} - \frac{3}{4} =$$

1 $\frac{1}{2}$ 

10. [Fraction ×, ÷] \*

$$\frac{2}{3} \times \frac{3}{8} =$$

 $\frac{1}{4}$ 

11. [Percents] \*

Tina bought her car for \$6000 and later sold it for \$4500. Find the loss as a percent of the cost price.

25%

12. [Decimals / Fractions / Percents] \*

Which is greater?

0.8 or  $\frac{3}{4}$ 

0.8

13. [Integers]

$$99 \div (-11) =$$

-9

14. [Rates / Ratios] \*

It takes 10 minutes to fill a 60-gallon bathing pool. What is the average rate in gallons per hour?

360 gal/h

15. [Exponents / Square Roots] \*

$$(-4)^3 =$$

-64

16. [Order of Operations] \*

$$\sqrt{5^2 + 12^2} =$$

13

17. [Exploring Number]

Which is **not** a rational number?

A) 1.4143

B)  $\frac{7}{6}$ C)  $\sqrt{7}$ 

D) -28

C

18. [Multiples / Factors / Primes] \*

The number 10 has exactly four factors: 1, 2, 5 and 10. Find the next number after 10 that has exactly four factors.

14

19. [Number Patterns] \*

If the general rule of a pattern is  $n - 7$  find the 22nd term ( $n = 22$ ).

15

20. [Expressions]

Write as an expression: A number that is equal to 5 less than  $b$

 $b - 5$ 

21. [Substitution] \*

Use  $A = bh$  to find the area ( $A$ ) of a parallelogram where  $b = 8$  and  $h = 7$

56

22. [Equations] \*

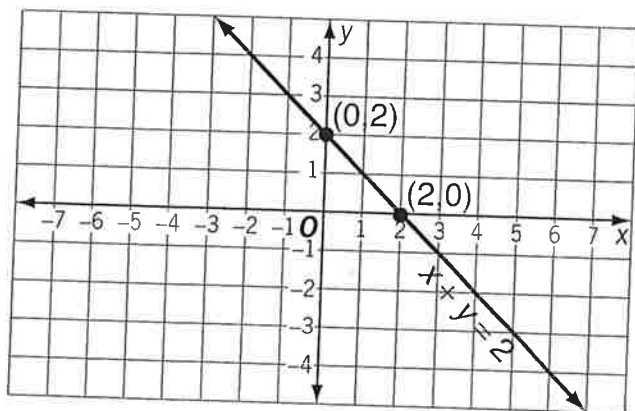
Solve for  $s$ :

$$4s - 5 = 11$$

 $s = 4$

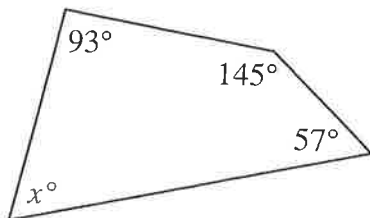
**23.** [Graphs & Functions]

Draw the line through all the points where the  $x$ -coordinate and the  $y$ -coordinate add to 2.



**24.** [Shapes] \*

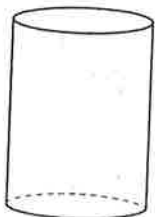
Find the value of  $x^\circ$ .



**65°**

**25.** [Exploring Geometry]

What shape is the cross section drawn through this cylinder?



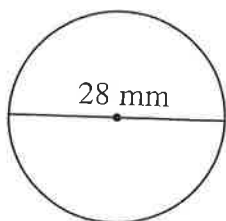
**rectangle**

**26.** [Units of Measurement / Time] \*

25 qt = **6** gal **1** qt

**27.** [Perimeter] \*

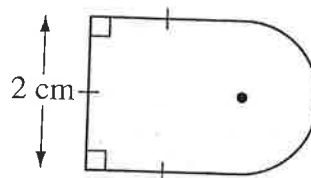
Using  $\pi \approx \frac{22}{7}$  calculate the circumference of the circle.



**88 mm**

**28.** [Area / Volume] \*

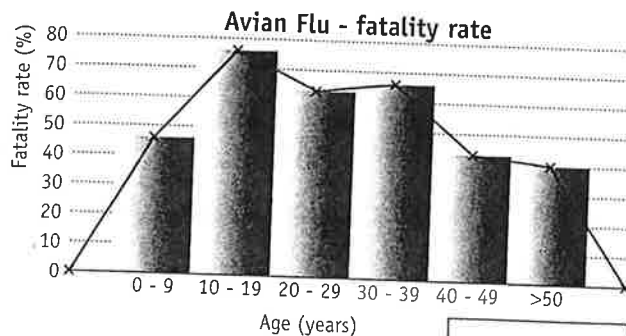
Using  $\pi \approx 3.14$  find the area of the shape.



**5.57 cm<sup>2</sup>**

**29.** [Statistics]

Which age group has the highest fatality rate from avian flu?



**10 - 19**

**30.** [Probability] \*

When a die is rolled, what is the probability of rolling a 2 or a 5?

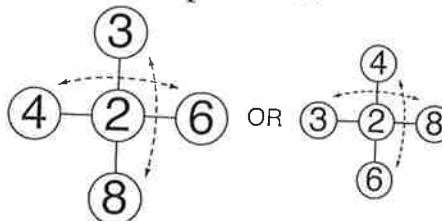


or 0.3

**$\frac{1}{3}$**

**31.** [Problem Solving 1] \*

Place the digits 2, 3, 4, 6 and 8 in the circles so the three numbers on each line give the same product, and the product is as small as possible.



**32.** [Problem Solving 2] \*

In how many ways can 12 one-dollar coins be shared between Josh, Frank and Suzie, if each of them receives at least 3 coins?

**10**

**33.** [Problem Solving 3] \*

Sandra walked to the top of a hill at a speed of 2 km/h, turned around and walked down the hill at a rate of 4 km/h. The whole trip took 6 hours. How many kilometers is it to the top of the hill?

**8 km**

## 1. [+ Whole Numbers to 10]

	13	76	-7	-22	9	41	18	-65	10	34
+ 9	22	85	2	-13	18	50	27	-56	19	43

## 2. [- Whole Numbers to 10]

	-10	31	9	17	-28	12	36	13	75	4
- 5	-15	26	4	12	-33	7	31	8	70	-1

## 3. [× Whole Numbers to 12]

	9	3	12	-7	11	6	10	8	-4	5
× 7	63	21	84	-49	77	42	70	56	-28	35

## 4. [÷ Whole Numbers to 12]

	96	24	56	80	-48	64	40	88	-32	72
÷ 8	12	3	7	10	-6	8	5	11	-4	9

## 5. [Large Number +, -] \*

$$849 + 3175 - 888 =$$

3136

## 6. [Large Number ×, ÷] \*

$$3137 \div 4 =$$

784.25

## 7. [Decimal +, -] \*

$$12 - 9.63 =$$

2.37

## 8. [Decimal ×, ÷] \*

$$9 \div 0.03 =$$

300

## 9. [Fraction +, -] \*

$$2\frac{3}{8} - \frac{5}{8} =$$

1 $\frac{3}{4}$ 

## 10. [Fraction ×, ÷] \*

$$\frac{9}{10} \times \frac{2}{3} =$$

 $\frac{3}{5}$ 

## 11. [Percents] \*

Aaron bought a motor home for \$50,000. If he later sold it for \$10,000, find the loss as a percent of the cost price.

80%

## 12. [Decimals / Fractions / Percents] \*

Which is greater?

40% or 0.04

40%

## 13. [Integers]

$$-24 \div (-6) =$$

4

## 14. [Rates / Ratios] \*

The average heart beat rate for persons 12 to 16 years old is 80 beats per minute at rest. At this rate how many times is the heart beating in two and a half hours?

12,000 beats

## 15. [Exponents / Square Roots] \*

$$(-12)^2 =$$

144

## 16. [Order of Operations] \*

$$50 - 2^3 \times \sqrt{36} =$$

2

## 17. [Exploring Number]

Choose the rational numbers from the list:

 $\frac{14}{28}, \sqrt{3}, 0.6341, 15, \pi$ 
 $\frac{14}{28}, 0.6341, 15$ 

## 18. [Multiples / Factors / Primes] \*

What is the smallest positive integer that has exactly eight factors?

24

## 19. [Number Patterns] \*

If the general rule of a pattern is  $33 - 3n$  find the 8th term ( $n = 8$ ).

9

## 20. [Expressions]

Write as an expression:  
A number that is equal to twice as much as  $x$

2x

## 21. [Substitution] \*

Use  $V = \frac{Ah}{3}$  to find the volume ( $V$ ) of a pyramid where  $A = 6$  and  $h = 8$

16

## 22. [Equations] \*

Solve for  $q$ :  
 $3q - 1 = -10$

q = -3

## MATH'S MATE



Term 4 - Sheet 7

Name: .....

Due Date: ..... / ..... / .....

Parent's Signature: .....

## QUOTE OF THE WEEK

"I think it would be a good idea."

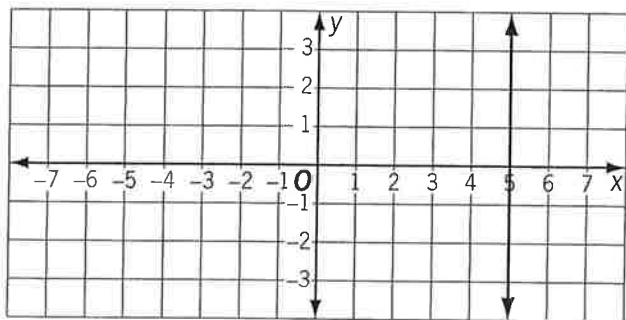
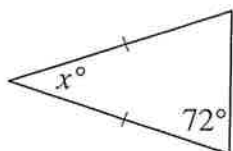
Mahatma Gandhi

(When asked what he thought of Western Civilization.)

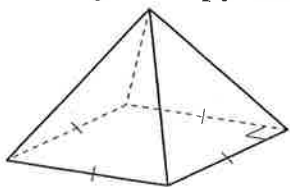
**23.** [Graphs & Functions] \*

This line is described as:

- A) All points where  $x = y + 5$   
 B) All points where  $y = 5$   
 C) All points where  $x = 5$

**C****24.** [Shapes] \*Find the value of  $x^\circ$ .**36°****25.** [Exploring Geometry]

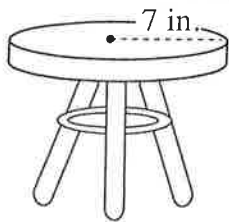
What shape is the cross section drawn through this pyramid?

**square****26.** [Units of Measurement / Time] \*

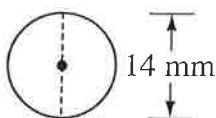
$$2 \text{ T } 1000 \text{ lb} = \boxed{5000} \text{ lb}$$

**27.** [Perimeter] \*

Using  $C = 2\pi r$  where  $\pi \approx \frac{22}{7}$ , calculate the circumference of the stool top.

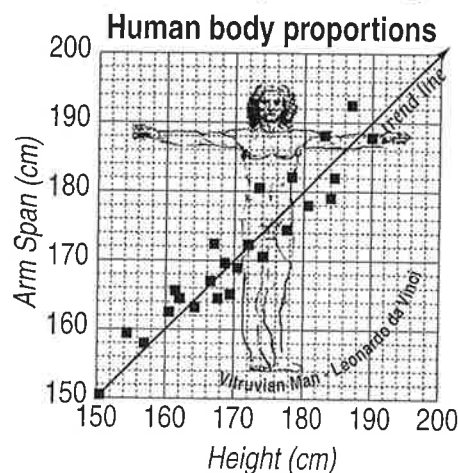
**44 in.****28.** [Area / Volume] \*

Using  $A = \pi r^2$  and  $\pi \approx \frac{22}{7}$ , find the area of the circle.

**154 mm<sup>2</sup>****29.** [Statistics]

Which best describes the trend line?

- A) Height taller than arm span  
 B) Height shorter than arm span  
 C) Arm span equal to height

**C****30.** [Probability] \*

A survey of a local suburb showed that 15% of the population was under 12 years of age, and 21% of the population was over 60 years of age. What is the probability that a person selected at random was aged between 12 and 60? [Give the answer as a percent.]

**64%****31.** [Problem Solving 1] \*

John asked Miriam to tell him her age. She replied, "If you divide my age by 3, you will get the same answer as when you divide 75 by my age." How old is Sarah?

**15****32.** [Problem Solving 2] \*

At noon, Trevor and Kim start running from the same point. Trevor runs east at a speed of 5 mph and Kim runs west at a speed of 3 mph. At what time will they be 12 miles apart?

**1:30 P.M.****33.** [Problem Solving 3] \*

In the addition problem shown, each letter represents a different digit. If  $GOD = 605$ , what number does  $MOVED$  represent?

$$\begin{array}{r} \text{A D A M} \\ \text{A N D} \\ + \text{E V E} \\ \hline \text{M O V E D} \end{array}$$

**10,395**

# MATH'S MATE



Term 4 - Sheet 8

Name: .....

Due Date: ..... / ..... / .....

Parent's Signature: .....

QUOTE OF THE WEEK

Bromley's Maxim - What's not worth doing is not worth doing well.  
Rossiter

1. [+ Whole Numbers to 10]

	14	-36	-12	20	7	1	-18	63	29	25
+ 8	22	-28	-4	28	15	9	-10	71	37	33

2. [- Whole Numbers to 10]

	24	12	26	-37	71	40	3	35	-19	8
- 7	17	5	19	-44	64	33	-4	28	-26	1

3. [× Whole Numbers to 12]

	9	8	5	-3	11	6	7	10	-4	12
× 5	45	40	25	-15	55	30	35	50	-20	60

4. [÷ Whole Numbers to 12]

	18	66	48	36	-72	30	54	-24	42	60
÷ 6	3	11	8	6	-12	5	9	-4	7	10

5. [Large Number +, -] \*

$$2000 + 50,000 - 14,973 =$$

37,027

6. [Large Number ×, ÷] \*

$$1724 \div 8 =$$

215.5

7. [Decimal +, -] \*

$$5 - 3.841 =$$

1.159

8. [Decimal ×, ÷] \*

$$6 \div 0.8 =$$

7.5

9. [Fraction +, -] \*

$$3\frac{1}{10} - 1\frac{3}{10} =$$

1 $\frac{4}{5}$

10. [Fraction ×, ÷] \*

$$\frac{5}{18} \times \frac{9}{10} =$$

$\frac{1}{4}$

11. [Percents] \*

An antique vase was bought for \$80 and was later sold for \$240. Find the profit as a percent of the cost price.

200%

12. [Decimals / Fractions / Percents] \*

Which is greater?

$\frac{2}{3}$  or 60%

$\frac{2}{3}$

13. [Integers]

$$-64 \div 8 =$$

-8

14. [Rates / Ratios] \*

A Ferrari with a 5.5 L engine has a city consumption of 23 liters of gas per 100 km. How much gas does it need for a 20 km city trip?

4.6 L

15. [Exponents / Square Roots] \*

$$(-2)^5 =$$

-32

16. [Order of Operations] \*

$$\sqrt{16} - 3 \times 4 + 3^3 =$$

19

17. [Exploring Number]

Choose the rational numbers from the list:

$\frac{24}{299}$ , -6.78, 40,  $\sqrt{7}$ , -9

$\frac{24}{299}$ , -6.78, 40, -9

18. [Multiples / Factors / Primes] \*

List the 3 smallest positive integers that have exactly four factors.

6, 8 and 10

19. [Number Patterns] \*

If the general rule of a pattern is  $n^2 + 4$  find the 6th term ( $n = 6$ ).

40

20. [Expressions]

A plant grew 2 inches every day for  $d$  days. How much did it grow?

$2d$

21. [Substitution] \*

Use  $P = 2(l + w)$  to find the perimeter ( $P$ ) of a rectangle where  $l = 7$  and  $w = 4$

22

22. [Equations] \*

Solve for  $k$ :  
 $7k + 16 = 2$

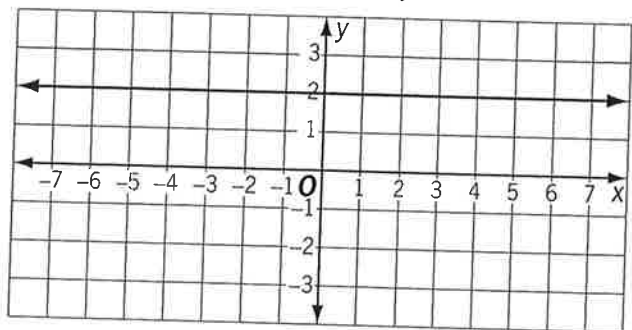
$k = -2$



23. [Graphs & Functions] \*

This line is described as:

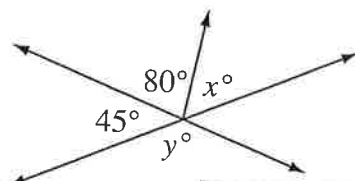
- A) All points where  $x = 2$
- B) All points where  $y = 2$
- C) All points where  $x + y = 2$



B

24. [Shapes] \*

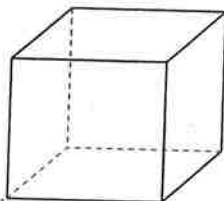
Find the values of  $x^\circ$  and  $y^\circ$ .



$$x^\circ = 55^\circ \quad y^\circ = 135^\circ$$

25. [Exploring Geometry]

What shape is the cross section drawn through this cube?



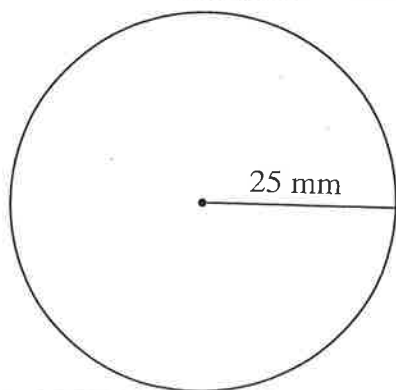
rectangle

26. [Units of Measurement / Time] \*

$$84 \text{ oz} = 5 \text{ lb } 4 \text{ oz}$$

27. [Perimeter] \*

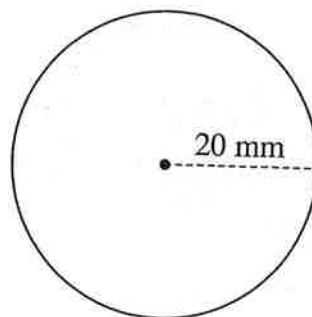
Using  $C = 2\pi r$  where  $\pi \approx 3.14$ , calculate the circumference of the circle.



157 mm

28. [Area / Volume] \*

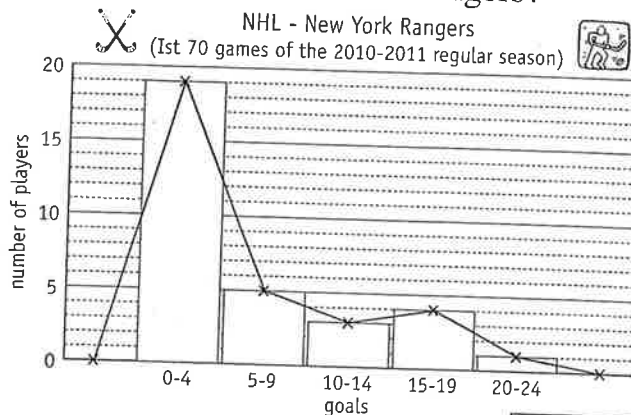
Using  $A = \pi r^2$  and  $\pi \approx 3.14$ , find the area of the circle.



1256 mm<sup>2</sup>

29. [Statistics]

How many players scored more than 9 goals for the New York Rangers?



8

30. [Probability] \*

Ten balls numbered 1 to 10 are mixed together, and then one ball is drawn. Find the probability that the number drawn is not a multiple of 3.

or 0.7

$\frac{7}{10}$

31. [Problem Solving 1] \*

I think of a number, multiply it by 2, subtract 6 and then divide by 4. If the answer is 8, what is the original number?

19

32. [Problem Solving 2] \*

What single discount is successive discounts of 30% and 50% equivalent to?

65%

33. [Problem Solving 3] \*

Students in a math test can score 0, 1, 2 or 3 marks on each of the six questions. There is only one way to score 18 and six ways to score 17. In how many ways can a student score 16?

21