CoronaVirus "Break" Packet
IB MYP Geometry 1
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This year has been unlike any other we've experienced - the strike in the fall, the uncertainty that surrounds us now as far as when we will get back to school ...
No matter what the future brings this school year, your SAFETY is our priority.

We've put together some work in this packet to keep your skills sharp and your brain active. We know you won't be able to solve every problem without assistance but we encourage you to try them all as best you can. There are two parts to this packet:

1) Academic Approach PSAT practice problems #1 - 39 These problems reflect a wide variety of skills that were covered in both 9th / 10th grades. <u>This does not have to be completed all at once.</u> It also shouldn't take more than an hour total.

2) Unit 6 Create and Solve for 8 skills we've covered so far - The back of this sheet contains a problem that we made up and solved and is meant to serve as a model. You should create 8 similar problems and solve them (Sounds like something that could easily be graded on an 8-point scale eh?). You should do this work on scratch / notebook paper.

Finally, we also ask that you take home your workbooks. If this break is extended beyond two weeks, your workbook can provide additional practice on topics already covered in class. We've highlighted some applicable problems and activities below but also encourage you to look through it and find others that peak your interest.

IM Workbooks Unit 5 - Solid Geometry

Activities:	Practice Problems:
1) Lesson 9 Activity 9.1 Same But Different p287 2) Lesson 10 Activity 10.3 Equal Values pgs 297-298 (all but #5) 3) Lesson 14 Activity 14.1 Matching p327 4) Lesson 15 Activity 15.1 Math Talk p 335	1) P279 #5 2) P285 #1a 3) P286 #6a and #7 4) P293 #3a, 3b, 3d 5) P301 #1 6) P308 #3 and P317 #4 7) P324 #1 and #2 8) P326 #6 9) P332 #3 Solids with Volume = 40 10) P349 #7 Square pyramid

Please note that we did not use the workbooks for Unit 4 - Trigonometry. There are some fun and interesting activities within the workbook. Again, we encourage you to explore the unit and complete some work. If the break is extended, this will become an assignment. If not, your efforts outside of class will always be worthy of extra credit.

Assignment #1: Create and Solve for Unit 6

Directions: Create 8 new problems for each example shown below by changing the values (#s). Then show your work and solve the problem.

1) MarkUp 35%, Price: $79 $79 + 35%($79) = **$106.65**	5) Translate and Solve #2 183 is 72% of what? 183 = 72%x (divide both sides by 72%) $254.166666 = **$254.17**
2) Discount 35%, Price $79 $79 - 35%($79) = **$51.35**	6) Translate and Solve #3 520 is what % of 800? 520 = x%(800) -- divide 800, times 100 x% = 520/800 * 100 = **65%**
3) Tax 3.5%, Price $79 $79 + 3.5%($79) = $81.765 = **$81.77**	7) Percent Increase From 25 minutes to 92 minutes 92 - 25 = 67 / 25 x 100 = **268% increase**
4) Translate and Solve #1 What is 28% of $116? X = 28%(116) = **$32.48**	8) Percent Decrease From 92 minutes to 25 minutes 25 - 92 = -67 / 92 x 100 = **73% decrease**

If you need to contact us, please do so **from your CPS email to our CPS email**:

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If you need access to food while we're out, please call CPS @ (773) 553 - KIDS

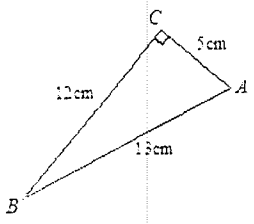
Acacemic Approach®

Coronavirus Math Classwork

Name _____ Pd ___

Do your best to solve these problems. Show your work and circle your final answers. This work is due upon return from school closure. BE SAFE

1. Given right triangle $\triangle ABC$, shown below, which of the following trigonometric expressions is equal to $\frac{5}{13}$?



A) $cosA$

B) $cscA$

C) $secA$

D) $sinA$

E) $tanA$

2. If $p=2$ and $q=9$, what does $2(p+q)^2$ equal?

A) 44

B) 121

C) 170

D) 242

E) 484

3. If $x=3$ and $y=2$, what does x^3y-y^3x equal?

A) 0

B) 30

C) 42

D) 192

E) 694

4. The expression $12z-8z+3z-2z$ simplifies to:

A) $-z$

B) z

C) $3z$

D) $5z$

E) $9z$

5. For all y, $-3(5-y)+2(y+3)=$?

A) $-5y+9$

B) $-y-9$

C) $y-12$

D) $5y-9$

E) $5y+24$

6. Evaluate the function $f(x)$ at $x=-3$, if $f(x)=-x^2-5x+3$.

A) -21

B) -3

C) 9

D) 12

E) 21

7. $(5x-3+2x)-(4x+4)-(3-x)$ is equivalent to:

A) $3x-2$

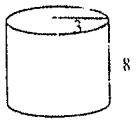
B) $4x-10$

C) $4x-2$

D) -10

E) -2

8. In the right circular cylinder shown below, dimensions are given in inches. The volume, V, of a right circular cylinder can be determined using the formula $V=\pi r^2 h$, where r is the radius of the base of the cylinder and h is the height of the cylinder. What is the volume, in cubic inches, of the cylinder pictured below?



A) 8π

B) 24π

C) 24

D) 36π

E) 72π

9. A formula for the volume of a right circular cylinder is $V=\pi hr^2$ where r is the radius of the circular base and h is the height of the cylinder. If the radius of a right circular cylinder triples and the height doubles, by what factor is the volume multiplied?

A) 2

B) 6

C) 9

D) 18

E) 22

10. Which of the following expresses the radius of a right circular cylinder in terms of its volume and height?

A) $\sqrt{\frac{V}{2\pi h}}$

B) $\sqrt{\frac{V}{\pi h}}$

C) $\frac{V}{\pi h}$

D) $\frac{V^2}{\pi h}$

11. An apartment floor plan with a scale of 1 inch is equal to 3 feet shows the living room to be a rectangle with sides of 8 inches by 1 inch. What is the actual area, in square feet, of the living room?

A) 3

B) 12

C) 24

D) 72

E) 2,880

12. A farmer is planning to increase the size of his rectangular field of crops. If the farmer doubles the length of the field and triples the width, the area of the new field will be how many times larger than the area of the current field?

A) 2

B) 3

C) 5

D) 6

E) 25

13. Which of the following triangles is similar to a right triangle with legs of length 5 units and 12 units?

A) A right triangle with legs of length 5 units and 13 units

B) A right triangle with legs of length 5 units and 17 units

C) A right triangle with legs of length 8 units and 12 units

D) A right triangle with legs of length 2 units and 6 units

E) A right triangle with legs of length 10 units and 24 units

14. A group of 9 children are playing in a field. The two Jansen sisters weigh an average of 120 pounds, the three Brody brothers weigh an average of 138 pounds, and the four Turner sisters weigh an average of 129 pounds. What is the approximate average weight, in pounds, of the children playing in the field?

A) 118

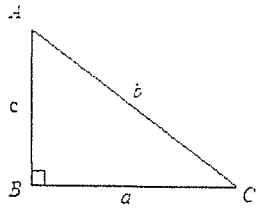
B) 124

C) 127

D) 129

E) 130

15. In the figure below, $\triangle ABC$ is a right triangle. What is the value of $sin\angle A$?



A) $\frac{a}{b}$

B) $\frac{b}{a}$

C) $\frac{c}{b}$

D) $\frac{b}{c}$

E) $\frac{a}{c}$

16. In right triangle $\triangle DEF$, if $sinD = \frac{3}{5}$, then which of the following is the value of $tanD$?

A) $\frac{3}{5}$

B) $\frac{3}{4}$

C) $\frac{4}{5}$

D) $\frac{5}{4}$

E) $\frac{4}{3}$

17. If $cos\theta = \frac{4}{5}$ and $sin\theta = \frac{3}{5}$, then $tan\theta =$?

A) $\frac{7}{10}$

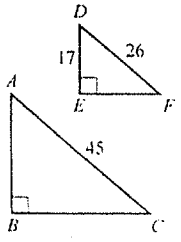
B) $\frac{3}{4}$

C) $1\frac{1}{3}$

D) $1\frac{2}{5}$

E) $1\frac{3}{7}$

18. In the figure below, $\triangle ABC$ is similar to $\triangle DEF$. The side lengths of the triangles are given in inches. To the nearest inch, how many inches long is $\overline{AB}$?



A) 17

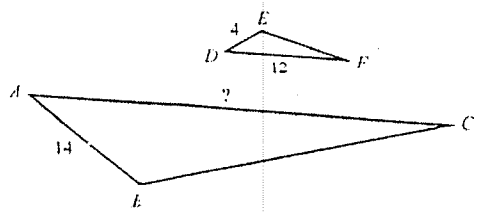
B) 26

C) 29

D) 33

E) 34

19. In the figure below, $\triangle ABC$ is similar to $\triangle DEF$, with side lengths given in centimeters. How many centimeters long is $\overline{AC}$?



A) 4

B) 12

C) 14

D) 42

E) $\frac{14}{3}\sqrt{10}$

20. Which of the following is similar to a right triangle with interior angles measuring $30°$, $60°$, and $90°$?

A) A triangle with interior angles measuring $30°$, $60°$, and $90°$

B) A triangle with interior angles measuring $45°$, $45°$, and $90°$

C) A triangle with interior angles measuring $15°$, $75°$, and $90°$

D) A triangle with interior angles measuring $15°$, $30°$, and $90°$

E) A triangle with interior angles measuring $60°$, $120°$, and $90°$

21. What is the value of $f(4)$ when $f(x) = -3x^2 + 30x + 22$?

A) -2

B) 94

C) 118

D) 190

E) 326

22. If $f(x) = -2x^2 - 2x$, then $f(-2) = ?$

A) -12

B) -4

C) 4

D) 12

E) 20

23. If $a = 3b + 2$, then $b = ?$

A) $\frac{a}{3} - 2$

B) $\frac{a}{3} + 2$

C) $\frac{a-2}{3}$

D) $3a - 2$

E) $3a + 2$

24. If $a = \frac{b}{4} - 3$, then $b = ?$

A) $\frac{a}{4} - 3$

B) $\frac{a}{4} + 3$

C) $a + 12$

D) $4a + 3$

E) $4a + 12$

25. If $a = \frac{2}{7}b$, then $b = ?$

A) $\frac{2}{7}a$

B) $2a + 7$

C) $\frac{7}{2}a$

D) $5a$

E) $7a - 2$

26. The formula for the area of a circle is $A = \pi r^2$. What is r equal to, in terms of A?

A) $\frac{A}{2\pi}$

B) $\frac{A-\pi}{2}$

C) $\sqrt{A - \pi}$

D) $\sqrt{\frac{A}{\pi}}$

E) $\sqrt{A\pi}$

27. The formula for the area of a triangle is $A = \frac{1}{2}bh$. What is h equal to, in terms of A and b?

A) $\frac{A}{2b}$

B) $\frac{2A}{b}$

C) $\frac{Ab}{2}$

D) $\frac{A-b}{2}$

E) $2(A - b)$

28. Twice the expression $\frac{2}{3}x - 2y + z$ is equal to:

A) $\frac{4}{3}x - 4y + z$

B) $\frac{4}{3}x - 4y + 2z$

C) $\frac{4}{3}x - 2y + z$

D) $3x - 4y + z$

E) $3x - 4y + 2z$

29. What is the ratio of 3 yards to 6 inches?

A) 1:2

B) 1:18

C) 18:1

D) 36:1

E) 48:1

30. Oscar was born with a birth weight of just 4 pounds and 6 ounces. How many ounces below a typically healthy weight of 7 pounds is Oscar?

(Note: 1 pound = 16 ounces.)

A) 24

B) 30

C) 42

D) 48

E) 58

31. A triangle has side lengths of $2x$, $4x$, and $5x$ inches. If the perimeter of this triangle is 44 inches, what is the value of x ?

A) 4

B) 6

C) 8

D) 11

E) 15

32. A triangle has side lengths of $(x+5)$ feet, $(2x-3)$ feet, and $(x-1)$ feet. If the perimeter of the triangle is 29 feet, what is the value of x ?

A) 6

B) 7

C) 7.5

D) 9.5

E) 12

33. The length of a rectangle is 4 inches longer than its width. If the perimeter of the rectangle is 36 inches, what is the area of the rectangle, in square inches?

A) 6

B) 24

C) 48

D) 77

E) 84

34. A bike rental shop charges \$6 per hour to rent a bike, plus an additional flat rate of \$5. If h is the number of hours for which a bike is rented, what is the total cost, in dollars, of renting a bike?

A) $5h+6$

B) $6h+5$

C) $h+11$

D) $11h$

E) $30h$

35. Carol is 3 years younger than half of her sister Diana's age. If d is Diana's age, what is Carol's age, in terms of d ?

A) $\frac{1}{2}d+3$

B) $\frac{1}{2}d-3$

C) $\frac{1}{2}(d-3)$

D) $2(d+3)$

E) $2d+3$

36. A cell phone company charges a base fee of \$29.95 per month, plus an additional \$0.40 per minute. If m is the number of minutes used per month, what is the total cost in dollars of using this company per month?

A) $0.40m+29.95$

B) $m+30.35$

C) $11.98m$

D) $29.95m+0.40$

E) $30.35m$

37. A DVD rental company charges a membership fee of \$5.95 per month plus an additional \$2 per DVD rented. Let d be the number of DVDs rented per month. What is the total cost in dollars of renting DVDs per month?

A) $5.95d+2$

B) $2d+5.95$

C) $2d-5.95$

D) $3.95d$

E) $7.95d$

38. Mark is four years younger than twice Nathan's age. If n is Nathan's age, what is Mark's age, in terms of n ?

A) $\frac{1}{2}n-4$

B) $\frac{1}{2}n+4$

C) $2n-4$

D) $2n+4$

E) $4n-2$

39. This week, Michelle will run 7 miles less than the product of 3 and the number of miles she ran last week. If Michelle ran m miles last week, how many miles will she run this week, in terms of m ?

A) $7-3m$

B) $m-4$

C) $m-10$

D) $3m-7$

E) $3(m-7)$