شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية

حل نموذج مراجعة وفق الهيكل الوزاري

التواصل الاجتماعي بحسب الصف العاشر العام




روابط مواد الصف العاشر العام على تلغرام

التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات

المزيد من الملفات بحسب الصف العاشر العام والمادة رياضيات في الفصل الثالث

1	بنك أسئلة وفق الهيكل الوزاري متبوعة بالقوانين الهامة
2	حل أسئلة الامتحان النهائي الالكتروني بريدج
3	أسئلة الامتحان النهائي الالكتروني بريدج
4	أسئلة الامتحان النهائي الورقي بريدج
5	حل أسئلة الاختبار التحريبي

مؤسسة الإمارات للتعليم المدرسي

مدرسة الحصن للتعليم الثانوي

مراجعـــــــة

أسئلة الهيكل

المادة: رياضيات

الصف العاشر العام

الفصل الدراسي الثالث 2023/2022

أبنائي الطلاب ....

العلم هو الوسيلة الوحيدة التي يرتفع به شأن الانسان إلى مراتب الكرامة والشرف....

اعداد

ا. مصطفى عبد العزيز

مدرسة الحصن الثانوية

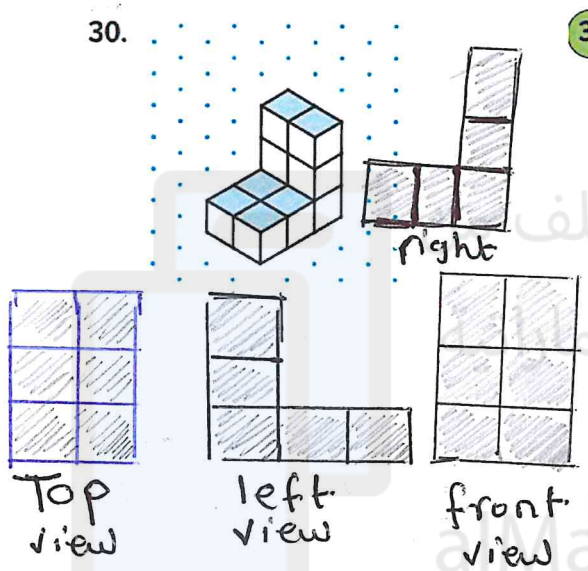
مراجعـــــــة أسئلة الهيـــكل

Part 1

1.Draw isometric views of three-dimensional figures

Draw the top, left, front, and right view of each solid

30.



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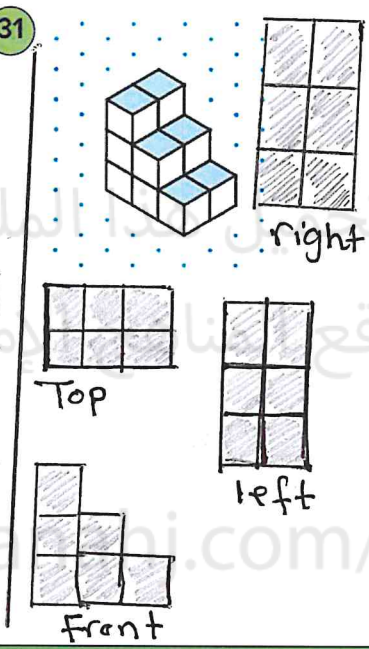

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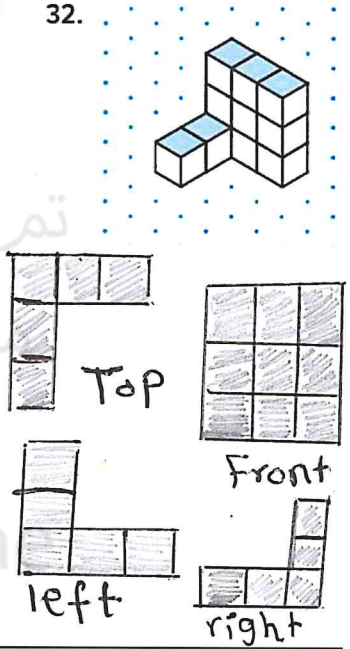
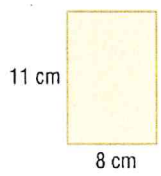


2.Perimeter and area of two-dimensional geometric shapes

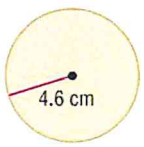
Find the perimeter or circumference and area of each figure. Round to the nearest tenth.

52.



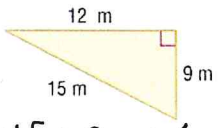
- $P = 11+11+8+8$
  $= 38$ cm
- $A = 11 \times 8 = 88$ cm

53.



- $C = 2\pi r$
  $= 2\pi(4.6)$
  $= \frac{46}{5}\pi$
  ≈ 28.9 cm
- $A = \pi r^2$
  $= \pi(4.6)^2$
  $= \frac{529}{25}\pi$
  ≈ 66.5 cm

54.



$P = 12 + 15 + 9 = 36$ m

$A = \frac{1}{2} b h$

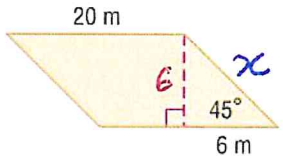
$= \frac{1}{2} \times 12 \times 9$

$= 54$ m^2

3.Perimeter and area of two-dimensional geometric shapes

Find the perimeter and area of each parallelogram, triangle, or composite figure. Round to the nearest tenth.

52.



$x = 6 \times \sqrt{2} = 6\sqrt{2}$

$P = 20 + 20 + 6\sqrt{2} + 6\sqrt{2}$

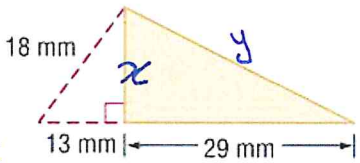
$= 40 + 12\sqrt{2} \approx 57.0$ m

$A = bh$

$= 20 \times 6$

$= 120$ m^2

53.



$x = \sqrt{13^2 + 18^2} \approx 22.2$

$y = \sqrt{(22.2)^2 + 29^2} \approx 36.5$

$P = 22.2 + 36.5 + 29$

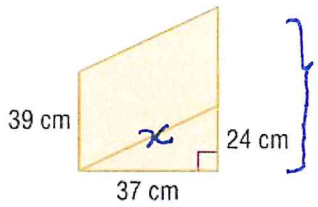
$= 87.7$ mm

$A = \frac{1}{2} bh$

$= \frac{1}{2} \times 29 \times 22.2$

$= 321.9$ mm^2

54.



$x = \sqrt{37^2 + 24^2} \approx 44$

$P = 37 + 39 + 24 + 39 + 44$

$= 183$ cm

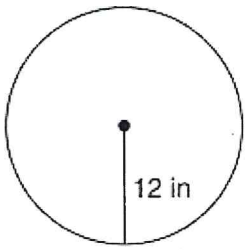
$A = \frac{a+b}{2} h$

$= \frac{39+63}{2} \times 37$

$= 1887$ cm^2

4.Area and circumference of a circle

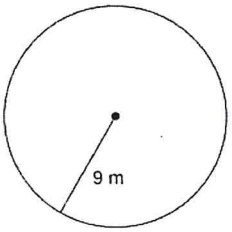
●Find the area of each. Use your calculator's value of π. Round your answer to the nearest tenth.



$A = \pi r^2$

$= \pi (12)^2$

$= 144\pi \approx 452.4$ in^2



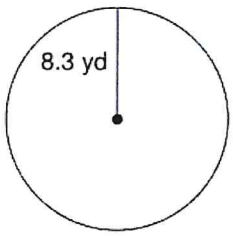
$A = \pi r^2$

$= \pi (9)^2$

$= 81\pi$

≈ 254.5 m^2

●Find the circumference of each circle. Use your calculator's value of π. Round your answer to the nearest tenth.



$C = 2\pi r$

$= 2\pi(8.3)$

$= \frac{83}{5}\pi$

≈ 52.2 yd

$C = 2\pi r$

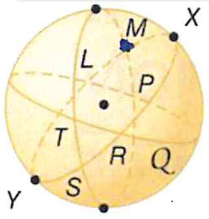
$= 2\pi(8) = 16\pi$

≈ 50.3 mi

5.Describe sets of points on a sphere

Name two lines containing point M, a segment containing point S, and a triangle in each of the following spheres.

9.



- Point M

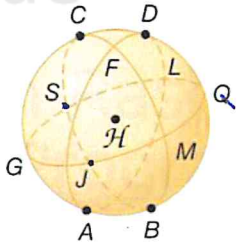
$\overleftrightarrow{XY}$, $\overleftrightarrow{WZ}$ } Two lines

- Point S

$\overline{XY}$, $\overline{WZ}$

- $\triangle TRS$

10.



- Point M

Two lines: $\overleftrightarrow{CB}$, $\overleftrightarrow{QG}$

- Point S

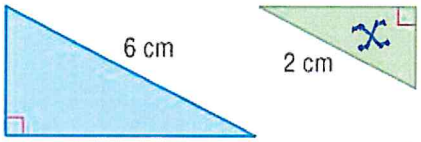
$\overline{CB}$, $\overline{LG}$

- $\triangle JAB$

5.Use properties of similar solids

For each pair of similar figures, find the area of the green figure.

42.



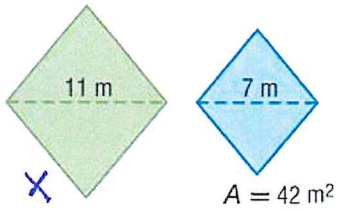
Scale factor $= \frac{2}{6} = \frac{1}{3}$

$\frac{x}{24} = (\frac{1}{3})^2$

$\frac{x}{24} = \frac{1}{9}$

$x = \frac{24}{9} = \frac{8}{3}\ cm^2$

43.



Scale factor $= \frac{7}{11}$

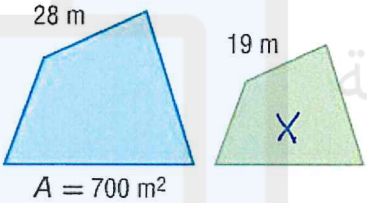
$\frac{42}{X} = (\frac{7}{11})^2$

$\frac{42}{x} = \frac{49}{121}$

$x = \frac{121(42)}{49}$

$= 103\frac{5}{7}\ m^2$

44.



Scale factor $= \frac{19}{28}$

$\frac{X}{700} = (\frac{19}{28})^2$

$\frac{X}{700} = \frac{361}{784} \Rightarrow X = 322\frac{9}{28}\ m^2$

6.Simplify expressions.

Simplify

1. $\frac{1}{2} + \frac{3}{8} = \frac{7}{8}$

2. $\frac{7}{9} + \frac{2}{6} = \frac{10}{9} = 1\frac{1}{9}$

3. $\frac{2}{5} + \frac{7}{8} = \frac{51}{40} = 1\frac{11}{40}$

استخدم الآلة

5. $\frac{3}{7} \cdot \frac{21}{24} = \frac{3}{8}$

4. $\frac{2}{9} \cdot \frac{4}{8} = \frac{1}{9}$

6. $\frac{3}{10} \cdot \frac{2}{9} = \frac{1}{15}$

7. A football team brings a 36-liter cooler of water to their games. How many 250-milliliter cups can the team drink per game?

$\frac{36\ L}{250\ ml} = \frac{36000}{250} = 144$

Number of cups = 144.

7.Probabilities of simple events

A die is rolled. Find the probability of each outcome.

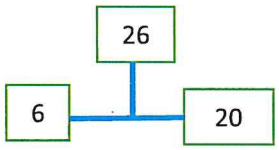
8. P(greater than 1) = $\frac{5}{6}$

9. P(odd) = $\frac{3}{6} = \frac{1}{2}$

10. P(less than 2) = $\frac{1}{6}$

11. P(1 or 6) = $\frac{2}{6} = \frac{1}{3}$.

12. **Games**: two friends are playing a game with a 20-sided die that has all of the letters of the alphabet except for Q, U, V, X, Y, and Z. What is the probability that the die will land on a vowel?



Vowel: A, E, I, O, U

P (Land on a vowel) = $\frac{4}{20}$ = 0.2

9.Use the Fundamental Counting Principle to count outcomes

Find the number of possible outcomes for each situation.

15. In the Junior Student Council elections, there are 3 people running for secretary, 4 people running for treasurer, 5 people running for vice president, and 2 people running for class president.

Number of possible outcomes = 3 x 4 x 5 x 2
= 120 ways.

16. When signing up for classes during his first semester of college, Frederica has 4 class spots to fill with a choice of 4 literature classes, 2 math classes, 6 history classes, and 3 film classes.

Number of possible outcomes = $4 \times 2 \times 6 \times 3 = 144$ ways.

17. Huda is choosing one each of 6 colleges, 5 majors, 2 minors, and 4 clubs.

Number of possible outcomes = $6 \times 5 \times 2 \times 4 = 240$ ways.

18. Hala owns a restaurant where all-in lunch menu has4 items: a starter, a main course, a dessert, and a drink. There are 5 options for the starter, 4 for the main course, 3 for the dessert, and 6 options for the drink.

Number of possible outcomes = $5 \times 4 \times 3 \times 6$
$= 360$ ways (options).

10.Use permutations with probability

(Example 2)

A class is divided into teams each made up of 15 students. Each team is directed to select team members to be officers. If Adnan, Obaid, Abdalla are on a team, and the positions are decided at random, what is the probability that they are selected as president, vice president, and secretary, respectively?

صف دراسي مقسم إلى فرق. كل فريق يضم 15 طالبا. وكل فريق يُوجه لاختيار أعضاء الفريق ليكونوا مسؤولين. إذا كان عدنان وعبيد وعبد الله أعضاء في فريق، ويتم تقرير المناصب بشكل عشوائي. فما احتمال اختيارهم ليتقلدوا مناصب الرئيس ونائب الرئيس والسكرتير على الترتيب.

$15P_3 = 2730$

$n(S) = 2730$

$n(E) = 1$

$P(E) = \frac{n(E)}{n(S)}$

$P(E) = \frac{1}{2730}$

Part 2

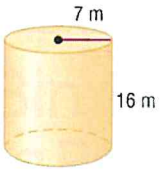
11.Expand the study of lateral areas and surface areas of cylinder

Find the lateral area and surface area of each cylinder. Round to the nearest tenth

19. 3 mm, 15 mm

- $L = 2\pi rh$
  $= 2\pi(3)(15) = 90\pi$
  $\approx 282.7\ mm^2$
- $S = L + 2\pi r^2$
  $= 282.7 + 2\pi(3)^2$
  $\approx 339.2\ mm^2$

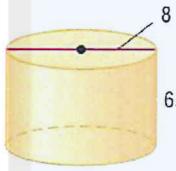
20. 7 m, 16 m



$L = 2\pi rh$
$= 2\pi(7)(16)$
$= 224\pi$
≈ 703.7

$S = L + 2\pi r^2$
$= 703.7 + 2\pi(7)^2$
$= 1011.6\ m^2$

21. 8 cm, 6.2 cm

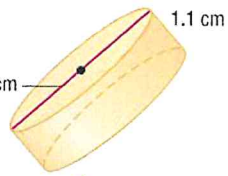


$r = 4$

$L = 2\pi rh = 2\pi(4)(6.2)$
$\approx 155.8\ cm^2$

$S = L + 2\pi r^2 = 155.8 + 2\pi(4)^2$
$\approx 256.3\ cm^2$

22. 1.1 cm, 3.6 cm

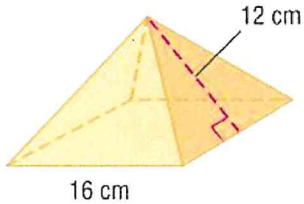


- $r = 3.6 \div 2$
  $= 1.8\ cm$
- $L = 2\pi rh$
  $= 2\pi(1.8)(1.1)$
  $\approx 12.4\ cm^2$
- $S = L + 2\pi r^2$
  $= 12.4 + 2\pi(1.8)^2$
  $\approx 32.8\ cm^2$

12.Expand the study of lateral areas and surface areas of pyramids

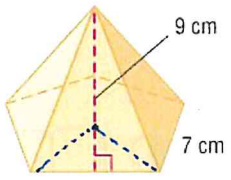
Find the lateral area and surface of each regular pyramid. Round to the nearest tenth if necessary.

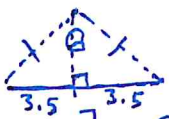
1. 12 cm, 16 cm



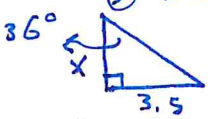
$P = 4 \times 16 = 64$
$L = \frac{1}{2} P \ell$
$= \frac{1}{2} \times 64 \times 12 = 384\ cm^2$
$B = 16 \times 16 = 256\ cm^2$
$S = L + B$
$= 384 + 256$
$= 640\ cm^2$

2. 9 cm, 7 cm



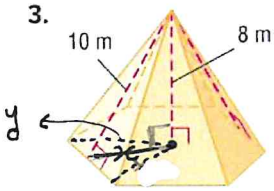


$\theta = 360 \div 5 = 72^\circ$

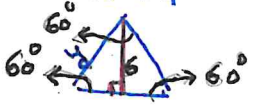


$\tan 36^\circ = \frac{3.5}{x}$
$x \approx 4.8$
$A_\Delta = \frac{1}{2} \times 7 \times 4.8 = 16.8$
- $B = 5 \times 16.8 = 84\ cm^2$
- $P = 7 \times 5 = 35$
- $L = \frac{1}{2} \times 35 \times 9 = 157.5\ cm^2$
- $S = L + B$
  $= 157.5 + 84$
  $= 241.5\ cm^2$

3. 10 m, 8 m, y



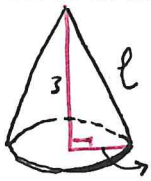
- $x = \sqrt{10^2 - 8^2} = 6\ m$



$6 = \frac{\sqrt{3}}{2} y$
$\Rightarrow y = 4\sqrt{3}$
$A_\Delta = \frac{1}{2} \times 4\sqrt{3} \times 6 = 12\sqrt{3}$
$B = 6 \times 12\sqrt{3} = 72\sqrt{3}$
$P = 4\sqrt{3} \times 6 = 24\sqrt{3}$
- $L = \frac{1}{2} P \ell$
  $= \frac{1}{2} \times 24\sqrt{3} \times 10$
  $= 120\sqrt{3} \approx 207.8\ m^2$
- $S = L + B$
  $= 207.8 + 72\sqrt{3}$
  $= 332.5\ m^2$

4. A conical tent is shown at the right. Round answers to the nearest tenth.

a. find the lateral area of the tent and describe what it represents.

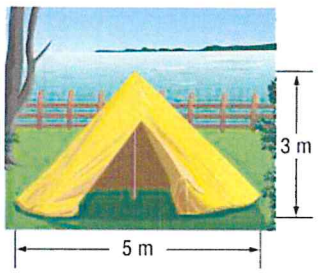


$r = \frac{5}{2} = 2.5$

$\ell = \sqrt{3^2 + 2.5^2} \approx 3.9$

• $L = \pi r \ell = \pi (2.5)(3.9)$
$= 30.6 \text{ m}^2$

• B =



• It represents the area of the curved surface of the tent.

b. find the surface area of the tent and descibe what it represents.

$B = \pi r^2 = \pi (2.5)^2 = 19.6 \text{ m}^2$

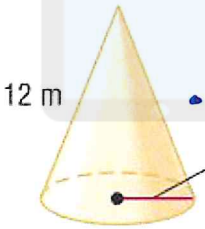
Area of the base

• $S = L + B = 30.6 + 19.6 = 50.2 \text{ m}^2$

It represnts the area of the curved surface plus the area of the tent floor.

• Find the lateral area and surface area of each cone. Round to the nearest tenth.

5.

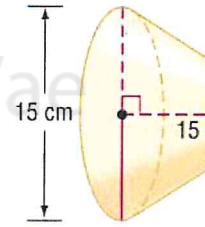


• $L = \pi r \ell$
$= \pi (5)(12) = 60\pi$
$\approx 188.5 \text{ m}^2$.

• $B = \pi r^2 = \pi (5)^2 = 25\pi$
$\approx 78.5 \text{ m}^2$

• $S = L + B$
$= 188.5 + 78.5 = 267 \text{ m}^2$

6.



$r = 7.5$

$\ell = \sqrt{15^2 + 7.5^2} = 16.8 \text{ cm}$

• $L = \pi r \ell = \pi (7.5)(16.8)$
$= 126\pi = 395.8 \text{ cm}^2$

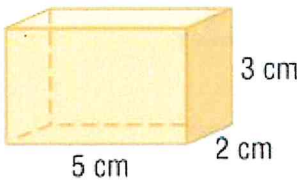
$B = \pi r^2 = \pi (7.5)^2 = 176.7$

• $S = L + B = 395.8 + 176.7$
$= 572.5 \text{ cm}^2$

13. Expand the study of volumes of prisms.

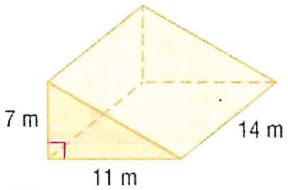
Find the volume of each prism.

10.



$V = \ell w h$
$= 5 \times 2 \times 3$
$= 30 \text{ cm}^3$

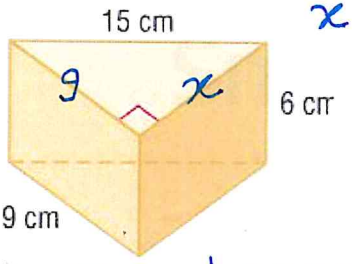
11



مساحة القاعدة $B = \frac{1}{2} \times 11 \times 7 = 38.5 \text{ m}^2$

$V = Bh = 38.5 \times 14$
$= 539 \text{ m}^3$

12.

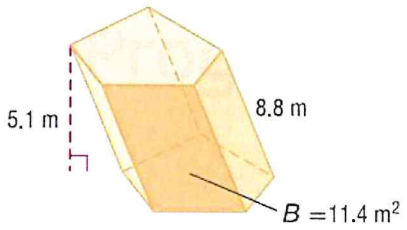


$x = \sqrt{15^2 - 9^2}$
$= 12$

القاعدة $B = \frac{1}{2} \times 9 \times 12 = 54\ cm^2$

الحجم $V = Bh = 54 \times 6$
$= 324\ cm^3$

13.

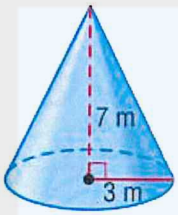


$V = Bh$
$= 11.4 \times 5.1$
$= 58.14\ m^3$

14.Expand the study of volumes of cones.

Find the volume.

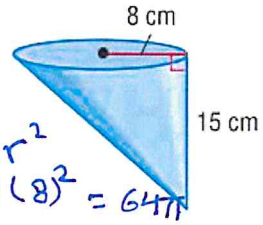
2A.



$B = \pi r^2$
$= \pi (3)^2 = 9\pi$

$V = \frac{1}{3} Bh$
$= \frac{1}{3} \times 9\pi \times 7$
$= 21\pi$
$\approx 65.97\ m^3$

2B.



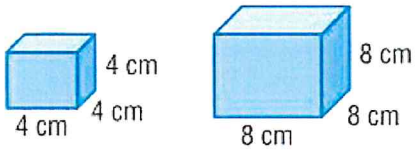
$B = \pi r^2$
$= \pi (8)^2 = 64\pi$

$V = \frac{1}{3} Bh$
$= \frac{1}{3} \times 64\pi \times 15$
$= 320\pi\ cm^3$

15.Use properties of similar solids

Determine whether each pair of solids is similar, congruent, or neither.
If the solids are similar, state the scale factor.

38.



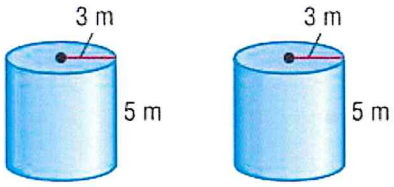
$\frac{4}{8} = \frac{1}{2}$ ، $\frac{4}{8} = \frac{1}{2}$ ، $\frac{4}{8} = \frac{1}{2}$

The Solids are similar.

Scale factor $= 1/2$

ملحوظة : All Cubes are similar

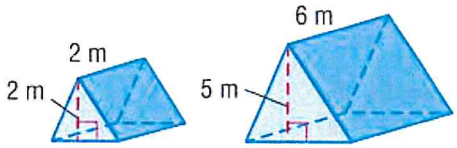
39.



$\frac{3}{3} = 1$ ، $\frac{5}{5} = 1$

Two Cylinders are Congruent.

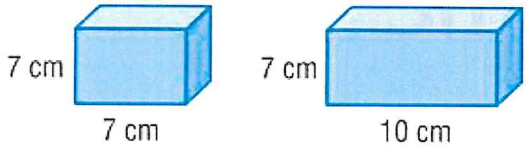
40.



$\frac{2}{5} \neq \frac{2}{6}$

Neither

41.



$\frac{7}{7} \neq \frac{7}{10}$

Neither

16. Find probabilities of events given the occurrence of other events and solve related problems.

1. A red marble is selected at random from a bag of 2 blue and 9 red marbles and not replaced. What is the probability that a second marble selected will be red?

R B T
9 2 11

P (the first red) $= \frac{9}{11}$

P (The second red) $= \frac{8}{10} = \frac{4}{5}$.

2. A number cube is rolled, and the result is a number greater than 2. What is the probability that the result is a 6?

$S = \{1, 2, 3, 4, 5, 6\}$

$A = \{3, 4, 5, 6\}$

$P(a\,6) = \frac{1}{4}$

3. A quadrilateral has a perimeter of 12 and all of the side lengths are odd integers. What is the probability that the quadrilateral is a rhomus?

Possible outcomes: $\{(1,3,5,3), (1,1,5,5), (3,3,3,3), (1,1,1,9), (7,1,1,3)\}$

Favourable outcomes $\{(3,3,3,3)\}$

$P = \frac{1}{5}$

4. **A spinner has 12 equally sized sections numbered 1 through 12. Find the probability that the spinner lands on 11, given that the spinner lands on an odd number.**

$S = \{1, 2, 3, 4, 5, 6, \ldots, 12\}$

A: odd number

$P(A) = \frac{6}{12} = \frac{1}{2}$

B : {11}

$P(B/A) = \frac{P(A \cap B)}{P(A)} = \frac{\frac{1}{12}}{\frac{1}{2}} = \frac{1}{6}$.

5. The probability that a student takes geometry and French at Satomi's school is 0.064. The probability that a student takes French is 0.45.

What is the probability that a student takes geometry if the student takes French?

G: geometry

F: French

$P(G \cap F) = 0.064$

$P(F) = 0.45 + 0.064 = 0.514$

$P(G/F) = \frac{P(G \cap F)}{P(F)} = \frac{0.064}{0.514} = \frac{32}{257}$

17. Use permutations with probability.

13. DINING Three boys and three girls go out to eat together. The restaurant only has round tables. Fred does not want any girl next to him and Gena does not want any boy next to her. How many arrangements are possible?

Fred : F

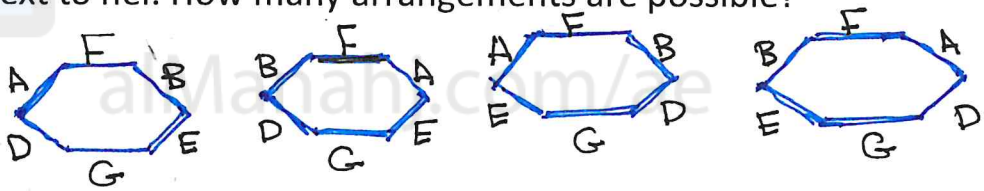
Gena: G

A : Boy

B : Boy

D : Girl

E : Girl



Number of possible outcomes = 4

14. DANCE The dance committee consisted of 10 students. The committee will select three officers at random. What is the probability that Majed, Fahd, and Falah are selected?

$P = \frac{1}{10C3} = \frac{1}{120}$

15. COMPETITION From 32 students, 4 are to be randomly chosen for an academic challenge team. In how many ways can this be done?

Number of ways $= 32C4 = 35960$

18.Use combinations with probability.

Represent the sample space for each experiment by making an organized list, a table, and a tree diagram.

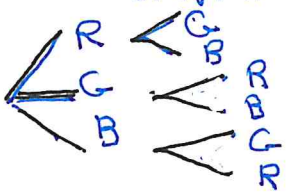
5. A box has 1 red ball, 1 green ball, and 1 blue ball. Two balls are drawn from the box one after the other, without replacement.

List

RG BR
RB BG
GR
GB

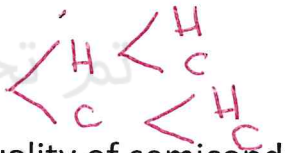
O	R	G	B
R		RG	RB
G	GR		GB
B	BR	BG	

Tree diagram



6. Shinsaku wants to sponsor a pet and goes to his local humane society to find a hamster or cat. While he is there, he decides to adopt two pets.

outcomes	H	C
H	HH	HC
C	CH	CC



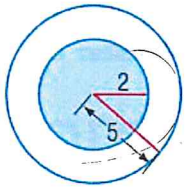
7. An engineer is analyzing three factors that affect the quality of semiconductors: temperature, humidity, and material selectins. There are 6 possible temperature setting, 4 possible humidity settings, and 6 choices of materials. How many combinations of settings are there?

Number of combinations $= 6 \times 4 \times 6$
$= 144$

8. how many distinguishable ways are there to arrange the letters in the word "bubble"?

$$\text{Number of ways} = \frac{6!}{3!}$$
$$= 120$$

9. Abdelkarim is shooting a paintball gun at the target. What is the probability that he will shoot the shaded region?



- Small Circle
  $A = \pi(2)^2 = 4\pi$
- Great circle
  $B = \pi r^2$
  $= \pi(5)^2 = 25\pi$

$P = \frac{4\pi}{25\pi} = \frac{4}{25}$

10. What is the probability that a phone number using the numbers 7,7,7,2,2,2, and 6 will be 662-2777?

- the total number of possible arrangements

$\frac{7!}{3! \times 3!} = 140$

$P = \frac{1}{140}$

11. Fifteen people entered the drawing at the right. What is the probability that Abdulaziz, Abdulrahim, and Abdulrahman all won the tickets?

the total number of possible outcomes: $15C3 = 455$

$P = \frac{1}{455}$

19. Use permutations with probability.

9. A bag contains 3 red chips, 5 green chips, 2 yellow chips, 4 brown chips, and 6 purple chips. One chip is chosen at random, the color noted, and the chips returned to the bag.

a. suppose two trails of his experiment are conducted. Are the events independent or dependent?

They are independent because the outcome of one trial doesn't affect the outcome of the other trial.

b. What is the probability that both chips are purple?

R	G	Y	B	P	T
3	5	2	4	6	20

$P = \frac{6}{20} \times \frac{6}{20} = \frac{9}{100} = 0.09$

c. What is the probability that the first chip is green and the second is brown?

$P = \frac{5}{20} \times \frac{4}{20} = \frac{1}{20}$

20.Use the Fundamental Theorem of Calculus

Determine the probability of each event.

16. rolling a pair of dice and not getting a 3.

$A = \{(1,3),(3,1),(2,3),(3,2),(3,3),(3,4),(4,3),(5,3),(3,5),(6,3),(3,6)\} \Rightarrow n(A) = 11$

$n(S) = 6 \times 6 = 36$

$P = \frac{36-11}{36} = \frac{25}{36}$

17. drawing a card from a standard deck and not getting a diamond.

$P(\text{diamond}) = \frac{13}{52}$

$P(\text{Not diamond}) = 1 - \frac{13}{52} = \frac{3}{4}$.

18. flipping a coin and not landing on heads.

$P = \frac{1}{2}$

19. spinning a spinner numbered 1-8 and not landing on 5.

$P(5) = \frac{1}{8}$

$P(\text{Not } 5) = 1 - \frac{1}{8} = \frac{7}{8}$.

20. Mansour bought 20 books. If a total of 500 books were sold, what is the probability that Mansour will get a damaged book?

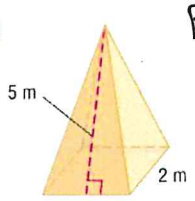
$P = \frac{480}{500} = \frac{24}{25}$

Part 3

21.Expand the study of lateral areas and surface areas of pyramids

Find the lateral area and surface area of each regular pyramid. Round to the nearest to tenth.

7



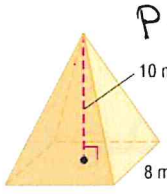
$P = 2 \times 4 = 8\ m$

$B = 2 \times 2 = 4\ m^2$

$L = \frac{1}{2} p \ell = \frac{1}{2} \times 8 \times 5 = 20\ m^2$

$S = L + B = 20 + 4 = 24\ m^2$

8.



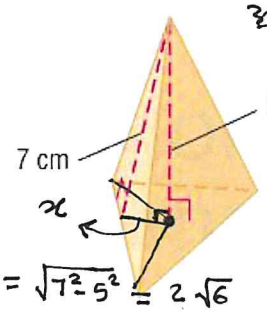
$P = 8 \times 4 = 32\ m$

$B = 8 \times 8 = 64\ m^2$

$L = \frac{1}{2} p \ell = \frac{1}{2} \times 32 \times 10 = 160\ m^2$

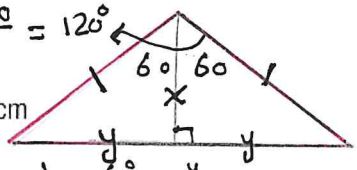
$S = L + B = 160 + 64 = 224\ m^2$

9.



$x = \sqrt{7^2 - 5^2} = 2\sqrt{6}$

$\frac{360}{3} = 120°$



- $\tan 60° = \frac{y}{2\sqrt{6}}$

$y = 6\sqrt{2}$

$B = \frac{1}{2} \times 12\sqrt{2} \times 2\sqrt{6} \times 3$

$= 72\sqrt{3}$

$P = 12\sqrt{2} \times 3 = 36\sqrt{2}$

$L = \frac{1}{2} P \ell = \frac{1}{2} \times 36\sqrt{2} \times 7$

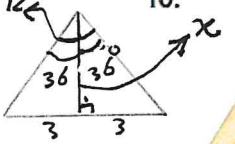
$\approx 178.2 \text{ cm}^2$

$S = L + B = 178.2 + 72\sqrt{3}$

$= 302.9 \text{ cm}^2$

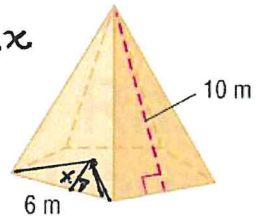
10.

$360 \div 5 = 72°$



$\tan 36 = \frac{3}{x}$

$x \approx 4 \text{ m}$



- $B = \frac{1}{2} \times 6 \times 4 \times 5$

$= 60 \text{ m}^2$

- $P = 6 \times 5 = 30$

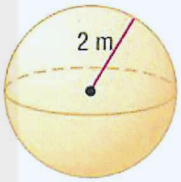
$L = \frac{1}{2} P \ell = \frac{1}{2} \times 30 \times 10 = 150 \text{ m}^2$

$S = L + B = 150 + 60 = 210 \text{ m}^2$

22.Expand the study of volumes of spheres.

Find the surface area of each sphere or hemisphere. Round to the nearest to tenth.

10.

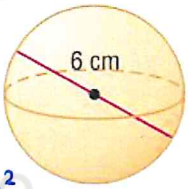


$S = 4\pi r^2$

$= 4\pi(2) = 8\pi$

$\approx 25.1 \text{ m}^2$

11.



$r = 3$

$S = 4\pi r^2$

$= 4\pi(3)^2$

$= 36\pi$

$\approx 113.1 \text{ cm}^2$

12.

$S = 3\pi r^2$

$= 3\pi(3.4)^2$

$= 109.0 \text{ mm}^2$

13.

$r = \frac{17}{2} = 8.5$

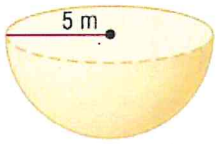
$S = 3\pi r^2$

$= 3\pi(8.5)^2$

$= 680.9 \text{ cm}^2$

Find the volume of each sphere or hemisphere. Round to the nearest to tenth

18.



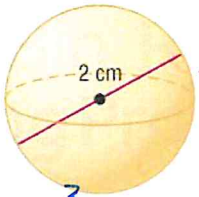
$V = \frac{2}{3}\pi r^3$

$V = \frac{2}{3}\pi(5)^3$

$= \frac{250}{3}\pi$

$\approx 261.8 \text{ m}^3$

19



$r = 1$

$V = \frac{4}{3}\pi r^3$

$= \frac{4}{3}\pi(1)^3 = \frac{4}{3}\pi$

$\approx 4.2 \text{ cm}^3$

23.Find probabilities by using length

Point X is chosen at random on $\overline{FK}$. Find the probability of each event.

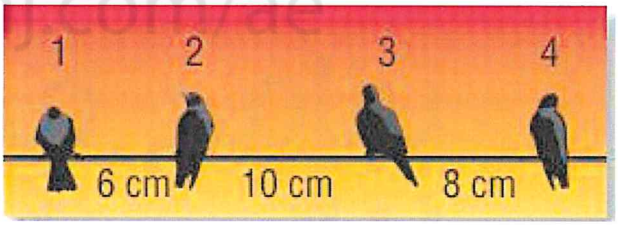
6.P (X is on $\overline{FH}$) $= \frac{16}{36} = \frac{4}{9}$.

7.P (X is on $\overline{GJ}$) $= \frac{26}{36} = \frac{13}{18}$

8.P (X is on $\overline{HK}$) $= \frac{20}{36} = \frac{5}{9}$

9.P (X is on $\overline{FG}$) $= \frac{4}{36} = \frac{1}{9}$.

10. Four birds are sitting on a telephone wire. What is the probability that a fifth bird landing at a randomly selected point between birds 1 and 4 will sit at some point between birds 3 and 4?



$P = \frac{8}{24} = \frac{1}{3}$