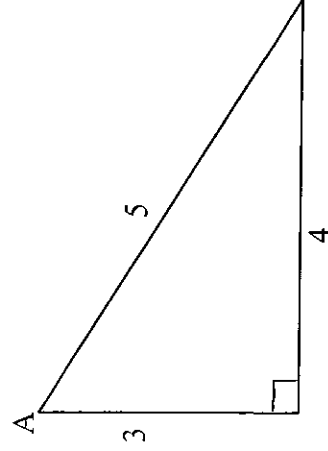
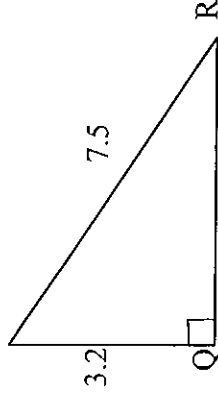


Math 10 F&P – Practice Final Exam

- Convert 1925 inches into yards, feet and inches.
- Janice rode her bike 18 times around a 500 m track. Kim drove her car 7.2 mi to her friend's house. Who drove further and by how many metres?
- Sue wants to put up a fence around her garden. The perimeter of her garden is 44 yd. Fencing materials are only sold by the metre for \$12.50 per metre. How much will it cost Sue to build her fence?
- Calculate the surface area to the nearest square unit:
 - a right square pyramid with a base whose sides are 7 inches and whose height is 15 inches
 - a cone whose slant height is 100 cm and whose base has a diameter of 24 cm.
- Calculate the surface area to the nearest square foot, and volume to the nearest cubic foot, of a sphere of radius 8 ft. ~~to the nearest square foot~~
- Calculate the value of $\sin A$, $\cos A$, and $\tan A$, given the following triangle:



- What is the measure of $\angle A$ in the triangle above?
- Use your calculator to find the following to four decimal places:
 - $\tan 83^\circ$
 - $\cos 55^\circ$
 - $\sin 8^\circ$
- Solve the following right triangle: P
(Angles to nearest degree)
(Sides to one decimal place)



- Sam and Sophia are building a wooden ramp for skateboarding. The height of the ramp is 0.75 m. The ramp makes an angle of 8° with the ground. What length of plywood do Sam and Sophia need for the top of the ramp? Give your answer to the nearest tenth of a metre.
- Determine the greatest common factor for 63, 90 and 150.
- Determine the least common multiple for 14 and 84.
- Use prime factorization to find the cube root of 50,653.
- Find the greatest common factor for following polynomial:
 $18a^4b^2 - 4a^2b^3 + 10ab^4$
- Factor the trinomial in #14 by removing the GCF.

16. Expand and simplify:
 (a) $(2x + 5)(x - 3)$ (b) $(x + 5)^2 - 3(4x - 1)$
17. Factor:
 (a) $n^2 + 9n - 22$ (b) $10x^2 + x - 2$ (c) $m^2 - 100$

18. Write each entire radical as a mixed radical in lowest terms:

- (a) $\sqrt{24}$ (b) $\sqrt[3]{108}$

19. Write $8\sqrt{2}$ as an entire radical:

20. Write the power $18^{\frac{2}{3}}$ as a radical.

21. Write the radical $(\sqrt[4]{6})^3$ as a power.

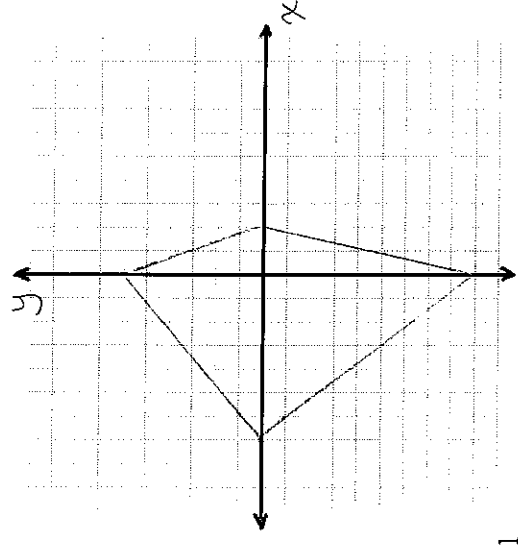
22. Simplify: $\frac{(a^{-2}b^{-1})^{-3}}{a^3b}$

23. Evaluate: $\left(\frac{2}{5}\right)^{1.5} \left(\frac{2}{5}\right)^{0.5}$

24. Represent the following relation has an arrow diagram:

Name	Sport
Perdita Felicien	Track
Donovan Bailey	Track
Nancy Greene	Skiing
Annamay Pierse	Swimming
Justin Morneau	Baseball
Steve Nash	Basketball

25. Find the domain and range for the following relation:



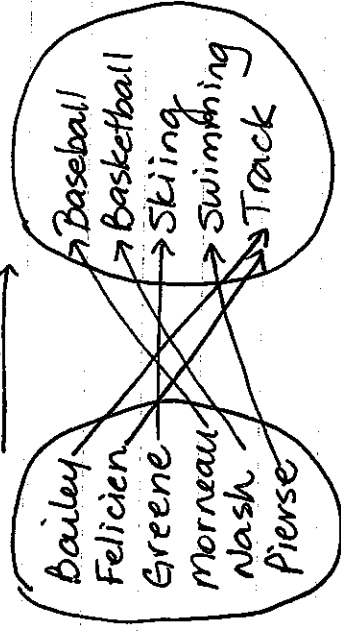
26. If $P(x) = 3n - 15$,
 (a) find $P(-2)$ (b) the value of n if $P(n)$ is 39
27. Sketch the graph of the following linear function by finding the x and y intercepts:
 $5x - 15y = 25$
28. Determine the slope of the line:
 (a) that joins $(-3, 6)$ and $(5, 1)$ (b) whose equation is $3x + 8y = 11$

29. Write the equation of the line in slope-intercept form that has a slope of -3 and a y -intercept of -2 .
30. Convert the equation from #29 into general form.
31. Write the equation of the line in slope-point form that has a slope of $-\frac{2}{5}$ and passes through the point $(-1, 5)$
32. Convert the equation from #31 into standard form.
33. Graph the line $y = -\frac{3}{2}x + 8$ using the slope and y -intercept method. State the value of the slope and y -intercept first.
34. If two lines are parallel, what can you say about their slopes?
35. If two lines are perpendicular, what can you say about their slopes?
36. Solve (and verify) the system of linear equations using any method you wish:
 $y = -2x + 8$
 $6x + y = 20$
37. Model the following with a system of linear equations:
“Tickets for the school play cost \$8 for an adult and \$5 for a student. The total revenue for one performance was \$1 122, with 32 more students than adults in the audience.”
38. Without solving the system, determine how many solutions this system of linear equations has:
 $y = -\frac{2}{7}x - 1$
 $2x + 7y = -7$

Math 10-F&P - Practice Final Exam

Answer Key

1. 53 yd, 1 ft, 5 in.
2. Kim drove 2520 m further
3. \$500
4. (a) 265 in^2 (b) 4222 cm^2
5. $SA = 804 \text{ ft}^2$ $V = 2145 \text{ ft}^3$
6. $\sin A = \frac{4}{5}$, $\cos A = \frac{3}{5}$, $\tan A = \frac{4}{3}$
7. 53.1°
8. (a) 8.1443 (b) 0.5736 (c) 0.1392
9. $\angle P = 65^\circ$ $\angle R = 25^\circ$ $p = 6.8$
10. 5.4 m
11. $gcf = 3$
12. $Lcm = 84$
13. 37
14. $2ab^2$
15. $2ab^2(9a^3 - 2ab + 5b^2)$
16. (a) $2x^2 - x - 15$ (b) $x^2 - 2x + 28$
17. (a) $(n+11)(n-2)$ (b) $(5x-2)(2x+1)$
18. (c) $(m+10)(m-10)$
19. (a) $2\sqrt{6}$ (b) $3\sqrt[3]{4}$
20. $\sqrt[3]{128}$ 21. $6\sqrt[3]{4}$
22. a^3b^2 23. $\frac{4}{25}$
24. $\frac{4}{25}$ takes part in



25. D: $-7 \leq x \leq 2$
R: $-9 \leq y \leq 6$

26. (a) -21
(b) 18

27. $x\text{-int} = 5$, $y\text{-int} = -\frac{5}{3}$
28. (a) $-\frac{5}{18}$ (b) $-\frac{3}{18}$
29. $y = -3x - 2$ 30. $3x + y + 2 = 0$
31. $y - 5 = -\frac{2}{5}(x+1)$ 32. $2x + 5y = 23$
33. $m = -\frac{3}{2}$ $b = 8$ 34. Equal slopes
35. Slopes are negative reciprocals of each other.
36. $x = 3$, $y = 2$ 37. $x = \text{adults}$, $y = \text{students}$
38. an infinite number of solutions.
 $y = x + 32$
 $8x + 5y = 1122$