

10. Perform the following calculations.

a) $(4.2)^2 \times (0.08)^2 = 0.112\ 896$ b) $(3.8)^1 \times (0.5)^3 = 0.475$
 c) $(0.75)^2 \times (0.8)^2 = 0.36$ d) $(1.2)^3 \times 0.25 = 0.432$

11. Find the value of a in each of the following cases.

a) $a^2 = 0.25$ $a = 0.5$ b) $(0.4)^a = 0.0256$ $a = 4$ c) $(2.5)^3 = a$ $a = 15.625$
 d) $a^4 = 0.0016$ $a = 0.2$ e) $(0.08)^a = 0.0064$ $a = 2$ f) $(4.18)^a = 1$ $a = 0$

12. Martin works in a convenience store several evenings during the week. His hourly salary is \$7.25. What would his salary be for a week in which he works 4 nights for 3.5 hours a night?
He would receive \$101.50.

13. Mrs. Long buys 2.25 kg of tomatoes at the supermarket for \$1.48 per kilogram. How much did her purchase cost?
Her purchase cost \$3.33.

14. A family of five goes to the circus. If each ticket costs \$24.95, how much will this family pay?
They will pay \$124.75.

15. Mr. Dunlop put 20.8 litres of gas in his gas tank. The cost of the gas is \$0.65 per litre. How much did he pay?
He paid \$13.52.

16. In the United States, gas is sold in gallons. 1 gallon = 3.785 litres and 1 gallon costs \$1.15 US. Mr. Scott buys 14.2 gallons of gas.

- a) What is this volume of gas in litres? 53.747 litres
 b) How much does Mr. Scott have to pay
 1. in American dollars? \$16.33 US
 2. in Canadian dollars if \$1 US = \$1.32 CAN? \$21.56 CAN

17. A mechanic earns \$23.60 per hour. What will his weekly salary be if he works 7.5 hours a day for 5 days?
He will earn \$885 per week.

18. On average, a petroleum reservoir produces 24.5 barrels of petroleum per day. What is the quantity, in litres, of petroleum produced at this reservoir over a 24 hour period if there are approximately 175.45 L in a barrel?
103 164.6 litres

3. Estimate the result of each multiplication by rounding each factor to the nearest unit, then perform the calculations to find the exact answer.

Multiplication	Estimate	Exact answer
a) 43.56×5	220	217.8
b) 3.417×4.8	15	16.401 6
c) 6.1×19.79	120	120.719
d) 24.2×6.8	168	164.56

4. Perform each of the following multiplications.

a) $3.6 \times 5 = 18$ b) $0.4 \times 1.2 = 0.48$ c) $2.5 \times 4 = 10$
 d) $4.2 \times 0.3 = 1.26$ e) $-14.8 \times -0.5 = 7.4$ f) $0.8 \times 0.7 = 0.56$
 g) $-5.8 \times 0.02 = -0.116$ h) $1.18 \times 0.4 = 0.472$ i) $-5 \times 4.5 = -22.5$
 j) $4.25 \times 0.8 = 3.4$ k) $3.45 \times 1.8 = 6.21$ l) $-2.4 \times -0.05 = 0.12$

5. If $a = 3.18$, $b = 4.9$ and $c = 2.76$, find the value of:

a) $a \times b = 15.582$ b) $a \times c = 8.776 8$
 c) $b \times c = 13.524$ d) $a \times b \times c = 43.006 32$

6. Complete the following table.

\times	3.5	0.5	1.42
0.24	0.84	0.12	0.340 8
23.8	83.3	11.9	33.796
0.08	0.28	0.04	0.113 6

7. Perform the given operations using 2 different methods.

1. Applying the order of priority of operations.
 2. Applying the distributive property of multiplication over addition or subtraction.
 a) $3.2 \times (1.4 + 5.6) = 3.2 \times 7 = 22.4$ b) $-1.2 \times (3.75 - 2.4) = -1.2 \times 1.35 = -1.62$
 $= 4.48 + 17.92 = 22.4$ $= -4.5 + 2.88 = -1.62$
 c) $-4.56 \times (1.2 - 7) = -4.56 \times -5.8 = 26.448$ d) $2.5 \times (0.45 + 1.2) = 2.5 \times 1.65 = 4.125$
 $= -5.472 + 31.92 = 26.448$ $= 1.125 + 3 = 4.125$

8. Factor out the greatest common factor of the sums and differences below, rewriting each as a product, then calculate each product.

a) $3.8 \times 6 - 3.8 \times 4 = 3.8 \times (6 - 4) = 7.6$ b) $2.4 \times 7 + 2.4 \times 3 = 2.4 \times (7 + 3) = 24$
 c) $4.2 \times 7 + 4.2 \times 5 - 4.2 \times 9 = 4.2 \times (7 + 5 - 9) = 12.6$ d) $7 \times 6.8 + 7 \times 3.2 = 7 \times (6.8 + 3.2) = 70$
 e) $3.2 + 4.8 = 1.6 \times (2 + 3) = 8$ f) $2.4 + 4.8 - 3.6 = 1.2 \times (2 + 4 - 3) = 3.6$

9. Calculate the following powers.

a) $(0.3)^2 = 0.09$ b) $(0.05)^2 = 0.002 5$ c) $(1.2)^3 = 1.728$ d) $(1.4)^0 = 1$
 e) $(2.18)^1 = 2.18$ f) $(0.9)^3 = 0.729$ g) $(2.8)^2 = 7.84$ h) $(0.8)^4 = 0.409 6$