

5. $(+12) - (-48) =$
 $(+12) + (+48) = +60$
6. $(-8) - (+5) =$
 $(-8) + (-5) = -13$
7. $(-13) + (-11) = -24$
8. $(-8) - (+25) =$
 $(-8) + (-25) = -33$
9. $(+37) - (-40) =$
 $(+37) + (+40) = +77$
10. $(-51) + (+73) = +22$
11. $(-62) + (-65) = -127$
12. $(-16) - (-18) =$
 $(-16) + (+18) = +2$
13. $\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$
14. $\frac{6}{7} - \frac{5}{7} = \frac{1}{7}$
15. $\frac{5}{9} - \frac{1}{9} = \frac{4}{9}$
16. $\frac{7}{20} + \frac{3}{20} = \frac{10}{20}$
17. $30 \div 3 = 10$
 $10 \times 2 = 20$ correct
 $30 - 20 = 10$ incorrect
18. $\frac{4}{10} - \frac{3}{10} = \frac{1}{10}$ of a pie
19. $(-R100) + (+R60) = -R40$
20. -7 cakes

Lesson Practice 3A

1. $(+5) \times (-6) = -30$
2. $(-6) \times (-7) = +42$
3. $(-9) \times (-10) = +90$
4. $(-10) \times (+12) = -120$
5. $(-5) \times (-8) = +40$
6. $(-16) \times (-11) = +176$
7. $(+4) \times (-15) = -60$
8. $(-18) \times (-6) = +108$
9. $(-16) \times (+12) = -192$
10. $(-17) \times (+3) = -51$
11. $(-18) \times (-4) = +72$
12. $(-24) \times (-5) = +120$
13. $(-11) \times (+16) = -176$
14. $(+3) \times (-24) = -72$
15. $(+8) \times (-12) = -96$
16. $(-10) \times (-16) = +160$

17. $(-3) \times (+6) = -18$ games
18. $(-R0.25) \times (+10) = -R2.50$
19. $(-R30) \times (+12) = -R360$
20. $(+10) \times (+12) = +120$ m²

Lesson Practice 3B

1. $(+36) \times (-4) = -144$
2. $(-4) \times (-19) = +76$
3. $(-6) \times (-8) = +48$
4. $(-24) \times (-6) = +144$
5. $(-25) \times (-3) = +75$
6. $(-10) \times (+19) = -190$
7. $(-8) \times (+6) = -48$
8. $(-42) \times (+16) = -672$
9. $(-50) \times (-19) = +950$
10. $(+25) \times (-6) = -150$
11. $(+23) \times (-13) = -299$
12. $(-46) \times (-8) = +368$
13. $(-16) \times (-24) = +384$
14. $(-8) \times (-16) = +128$
15. $(-42) \times (-15) = +630$
16. $(-17) \times (+48) = -816$
17. $(-R3) \times (+2) = -R6$
18. $(-10) \times (+5) = -50$ years
19. $(-R682) \times (+4) = -R2728$
20. $(-3) \times (+9) = -27$

Lesson Practice 3C

1. $(+8) \times (-5) = -40$
2. $(-6) \times (+10) = -60$
3. $(-3) \times (-4) = +12$
4. $(-20) \times (+12) = -240$
5. $(+17) \times (+3) = +51$
6. $(-8) \times (-9) = +72$
7. $(-90) \times (+4) = -360$
8. $(+24) \times (-8) = -192$
9. $(+42) \times (-6) = -252$
10. $(-10) \times (-10) = +100$
11. $(+7) \times (-6) = -42$
12. $(-18) \times (-4) = +72$
13. $(-36) \times (+4) = -144$
14. $(+13) \times (-4) = -52$

15. $(-17) \times (-3) = +51$
16. $(+19) \times (-51) = -969$
17. $(-R2) \times (+5) = -R10$
18. $(-32) \times (+21) = -672$ hairs
19. $(-4) \times (+10) = -40$ losses
20. $(+7) \times (+14) = +98$ m²

Systematic Review 3D

1. $(+17) \times (-6) = -102$
2. $(+22) \times (-11) = -242$
3. $(-5) \times (-9) = +45$
4. $(-10) \times (+5) = -50$
5. $(+6) \times (-7) = -42$
6. $(-16) \times (+9) = -144$
7. $(+5) - (+10) =$
 $(+5) + (-10) = -5$
8. $(-6) + (-9) = -15$
9. $(+14) + (-3) = +11$
10. $20 \div 2 = 10$
 $10 \times 1 = 10$
11. $15 \div 3 = 5$
 $5 \times 2 = 10$
12. $27 \div 9 = 3$
 $3 \times 4 = 12$
13. $\frac{1}{10} + \frac{7}{10} = \frac{8}{10}$
14. $\frac{5}{7} - \frac{1}{7} = \frac{4}{7}$
15. $\frac{4}{8} + \frac{1}{8} = \frac{5}{8}$
16. $\frac{7}{12} - \frac{3}{12} = \frac{4}{12}$
17. $\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12}$
18. $\frac{2}{5} = \frac{4}{10} = \frac{6}{15} = \frac{8}{20}$
19. $(-2) \times (+13) = -26$ litres
20. $(+9) + (-2) = +7$ km

Systematic Review 3E

1. $(+16) \times (-10) = -160$
2. $(+17) \times (-10) = -170$
3. $(+23) \times (+11) = +253$
4. $(-8) \times (-4) = +32$
5. $(-7) \times (-8) = +56$

6. $(+10) \times (-11) = -110$
7. $(+8) - (+19) =$
 $(+8) + (-19) = -11$
8. $(+17) + (-5) = +12$
9. $(-63) - (-50) =$
 $(-63) + (+50) = -13$
10. $18 \div 3 = 6$
 $6 \times 1 = 6$
11. $49 \div 7 = 7$
 $7 \times 3 = 21$
12. $44 \div 11 = 4$
 $4 \times 2 = 8$
13. $\frac{4}{5} - \frac{2}{5} = \frac{2}{5}$
14. $\frac{5}{6} + \frac{1}{6} = \frac{6}{6}$
15. $\frac{4}{13} + \frac{5}{13} = \frac{9}{13}$
16. $\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \frac{4}{16}$
17. $\frac{5}{8} = \frac{10}{16} = \frac{15}{24} = \frac{20}{32}$
18. $\frac{1}{8} + \frac{2}{8} = \frac{3}{8}$ of the house
19. $(+R25) + (-R30) = -R5$
20. $(+5) \times (+5) = +25$ km²

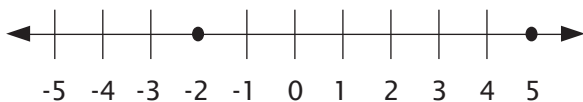
Systematic Review 3F

1. $(+14) \times (-5) = -70$
2. $(-18) \times (+11) = -198$
3. $(-9) \times (-12) = +108$
4. $(+14) \times (-6) = -84$
5. $(-19) \times (-23) = +437$
6. $(-19) \times (+17) = -323$
7. $(+32) + (-18) = +14$
8. $(-94) + (-7) = -101$
9. $(+58) - (+100) =$
 $(+58) + (-100) = -42$
10. $20 \div 5 = 4$
 $1 \times 4 = 4$
11. $21 \div 3 = 7$
 $7 \times 2 = 14$
12. $50 \div 10 = 5$
 $5 \times 3 = 15$
13. $\frac{2}{3} - \frac{1}{3} = \frac{1}{3}$

12. $50 \div 10 = 5$
 $5 \times 3 = 15$
13. $\frac{2}{3} - \frac{1}{3} = \frac{1}{3}$
14. $\frac{4}{7} - \frac{2}{7} = \frac{2}{7}$
15. $\frac{1}{9} + \frac{5}{9} = \frac{6}{9}$
16. $\frac{1}{6} = \frac{2}{12} = \frac{3}{18} = \frac{4}{24}$
17. $\frac{3}{7} = \frac{6}{14} = \frac{9}{21} = \frac{12}{28}$
18. $\frac{5}{12} - \frac{3}{12} = \frac{2}{12}$ of a pizza
19. $(+R15) \times (+4) = +R60$
20. $(-R20) \times (+4) = -R80$
 $(-R80) + (R60) = -R20$

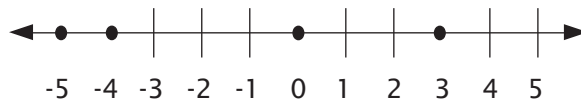
Lesson Practice 4A

1. $\frac{-35}{5} = -7$
2. $\frac{-49}{-7} = +7$
3. $\frac{48}{-6} = -8$
4. $\frac{54}{9} = +6$
5. $(15) \div (3) = +5$
6. $(24) \div (-6) = -4$
7. $(-28) \div (-4) = +7$
8. $(-56) \div (7) = -8$
9. $(-30) \div (6) = -5$
10. $(+48) \div (-8) = -6$
11. $(-15) \div (-5) = +3$
12. $(+63) \div (-9) = -7$
13. done
14. done
15. see graph
16. see graph
17. true
18. $(-25) \div (5) = -5$
losses per week
19. $(-R144) \div (+12) = -R12$
20. $(-30) \div (-5) = +6$ days



Lesson Practice 4B

1. $\frac{-16}{4} = -4$
2. $\frac{-81}{-9} = +9$
3. $\frac{42}{-6} = -7$
4. $\frac{40}{8} = +5$
5. $(-42) \div (-7) = +6$
6. $(+18) \div (-3) = -6$
7. $(-30) \div (-6) = +5$
8. $(-12) \div (2) = -6$
9. $(32) \div (-8) = -4$
10. $(+9) \div (+3) = +3$
11. $(-64) \div (-8) = +8$
12. $(-54) \div (+9) = -6$
13. see graph
14. see graph
15. see graph
16. see graph
17. true
18. $(-49) \div (7) = -7$
rand per day
19. $(-R72) \div (6) = -R12$
20. $(-R55) \div (-R5) = +11$ months



Lesson Practice 4C

1. $\frac{-36}{-9} = +4$
2. $\frac{64}{8} = +8$
3. $\frac{-56}{8} = -7$
4. $\frac{35}{-7} = -5$
5. $(45) \div (-9) = -5$
6. $(36) \div (-6) = -6$
7. $(-5) \div (-1) = +5$
8. $(-42) \div (6) = -7$
9. $(-144) \div (+12) = -12$
10. $(56) \div (-7) = -8$
11. $(-20) \div (-5) = +4$
12. $(18) \div (-6) = -3$

Honours Solutions

Honours Lesson 1

- $135 \div 9 = 15$;
 $15 \times 2 = 30$ people approved
 $135 \div 5 = 27$ people disapproved
 $30 + 27 = 57$ people answered
 $135 - 57 = 78$ people didn't answer
 more people didn't answer
- $390\ 580 \div 30\ 355 = 12\ \text{r.}\ 26\ 320$
 12 times with $26\ 320\ \text{km}^2$ left over
- $2 \times \text{R}35.95 = \text{R}71.90$
 $\text{R}71.90 + \text{R}15.95 = \text{R}87.85$
 $\text{R}87.85 - \text{R}5.00 = \text{R}82.85$
 $\text{R}100.00 - \text{R}82.85 = \text{R}17.15$ change
- $\text{R}17.15 - \text{R}10.00 = \text{R}7.15$ change
 $\text{R}7.15 - \text{R}5.00 = \text{R}2.15$;
 $\text{R}2.15 - \text{R}2.00 = \text{R}.15$;
 R10 note, R5 coin, R2 coin,
 10c coin, 5c coin
- $24 \times 12 = 288$ per case;
 $900 \div 288 = 3,125$
 rounded to next whole number is 4.
- $1260 \div 60 = 21$ hours
- $15 + (-33) = -18$;
 $-18 + 5 = -13^\circ$

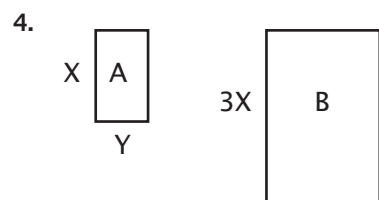
Honours Lesson 2

- Beginning price was R60, and he purchased 30 shares. He spent $30 \times \text{R}60$, or about R1800. Ending price was R45. He sold 30 shares, so he received $30 \times \text{R}45$ or R1350. $\text{R}1800 - \text{R}1350 = \text{R}450$ lost.
- $\frac{3}{8} + \frac{1}{8} + \frac{3}{8} = \frac{7}{8}$ of a km travelled
 $\frac{8}{8} - \frac{7}{8} = \frac{1}{8}$ of a km left

- $\text{ran } \frac{3}{8} + \frac{3}{8} = \frac{6}{8} = \frac{3}{4}$ km
 $1000\ \text{m} \div 4 = 250$; $250 \times 3 = 750$ m running
 jogged $\frac{1}{8}$ km
 $1000\ \text{m} \div 8 = 125$ m jogging
 Distance walking is the same as distance jogging, so that is 125 m also.
- $21 \times 60 = 1260$ per hour
 $1260 \times 24 = 30\ 240$ per day
 $30\ 240 \times 365 = 11\ 037\ 600$ per year
- $-5 + 4 - 8 + 10 + 5 - 4 - 6 = -4$ litres
- $-4 \times 1000 = -4000$ ml

Honours Lesson 3

- $68 \div 4 = 17$ units on a side
 $17 \times 17 = 289$ units²
- $8 \times 6 = 48$ units²
 $16 \times 12 = 192$ units²
 $192 \div 48 = 4$ times the original
- $4 \times 3 = 12$ units²
 $12 \div 48 = \frac{1}{4}$ the original



- area of rectangle A = XY units²
 area of rectangle B = $9XY$ units²
 $9XY \div XY = 9$
 The area of B is 9 times that of A.
- 39
 - 13 This can easily be solved by drawing a diagram or a number line.
 - rectangle: $14 \times 16 = 224\ \text{cm}^2$
 triangle: $\frac{1}{2} \times 14 \times 15 = 105\ \text{cm}^2$
 total: $224 + 105 = 329\ \text{cm}^2$

8. $3,14(15^2) = 706,5 \text{ cm}^2$
 $3,14(12^2) = 452,16 \text{ cm}^2$
 $706,5 - 452,16 = 254,34 \text{ cm}^2$

Honours Lesson 4

1. $\frac{1}{2} + \frac{1}{3} = \frac{3}{6} + \frac{2}{6} = \frac{5}{6}$
 $\frac{6}{6} - \frac{5}{6} = \frac{1}{6}$
2. $12:00 - 7:30 = 4:30$
 $4:30 + 3:00 = 7:30$ hours worked
 $7,5 \times R4.65 = R34.875$ or $R34.88$ earned
3. $\frac{3}{4} = \frac{15}{20}$ or $\frac{30}{40}$; $\frac{4}{5} = \frac{16}{20}$ or $\frac{32}{40}$
 E. $\frac{31}{40}$

4. $\frac{3}{4} = \frac{18}{24}$; $\frac{5}{6} = \frac{20}{24}$
 Now we can see at a glance that
 A or $\frac{19}{24}$ is an answer.

Check other fractions by using the rule of 4 to compare each with the two given fractions. E also falls between the given fractions.

$$\frac{3}{4} \quad \frac{11}{14}, \frac{42}{56} \quad \frac{44}{56}$$

$$\frac{5}{6} \quad \frac{11}{14}, \frac{70}{84} \quad \frac{66}{84}$$

Or, change each fraction to a decimal for easy comparison.

5. It will be quadrupled:
 $3,14(2^2) = 12,56 \text{ m}^2$
 $3,14(4^2) = 50,24 \text{ m}^2$
 $50,24 \div 12,56 = 4$ times
6. $12 \times 22 = 264 \text{ m}^2$
7. rectangle:
 $18 \times 30 = 540 \text{ cm}^2$
 parallelogram:
 $8 \times 15 = 120 \text{ cm}^2$
 $540 - 120 = 420 \text{ cm}^2$

8. area of square:
 $36 \times 36 = 1296 \text{ cm}^2$
 semicircles:
 $\frac{1}{2}(3,14)(5^2) = 39,25 \text{ cm}^2$
 $39,25 \times 4 = 157 \text{ cm}^2$
 $1296 - 157 = 1139 \text{ cm}^2$

Honours Lesson 5

1. R1.00
 $5 \times R1.00 = R5.00$
2. R2.00 the first day
 R4.00 the second day
 R16.00 the third day
 R256.00 the fourth day
 R65 536.00 the fifth day
 R65 814.00 total
3. $3 \times 2 = 6 \text{ units}^2$
 $9 \times 4 = 36 \text{ units}^2$
4. Sketches and dimensions will vary. The student should notice that when the dimensions are squared, the area will be squared.
5. Sketches and dimensions will vary the student should notice that when the dimensions are cubed. The area will be cubed.
6. Area = base \times height, so the area of this rectangle will be ab . If the length and the width of the rectangle are both cubed, the new area will be a^3b^3 , which can also be expressed as $(ab)^3$.
7. If the radius is doubled, the area will increase four-fold.
8. Ex: $r = 2$, $A = 3,14(4) = 12,56$
 $r^2 = 4$, $A = 3,14(16) = 50,24$
 New area is 4 times original area
 If you start with a radius of 3 and square it, the new area will be 9 times the original area. Squaring the radius of a circle causes the area to increase by a factor of r^2 .