

$$\begin{aligned}
 \text{(e)} \quad \frac{ab}{2} + bc^2 &= \frac{6 \times 5}{2} + 5 \times (-2)^2 \\
 &= \frac{30}{2} + 5 \times 4 \\
 &= 15 + 20 \\
 &= 35
 \end{aligned}$$



Exercises

1. Calculate:

- | | | |
|--------------------------------------|-------------------------------|---------------------------|
| (a) $6 + (-2)$ | (b) $(-3) + 5$ | (c) $(-4) + (-2)$ |
| (d) $2 - 4$ | (e) $3 - (-2)$ | (f) $(-7) - (-4)$ |
| (g) $2 \times (-6)$ | (h) $(-10) \times 5$ | (i) $(-12) \times (-4)$ |
| (j) $(-8) \div 4$ | (k) $14 \div (-7)$ | (l) $(-25) \div (-5)$ |
| (m) $(-3)^2$ | (n) $(-5)^2 \times (-2)$ | (o) $(4 \times 5) + (-2)$ |
| (p) $(-3) \times (-4) \div 6$ | (q) $(-3) \times (-8) + (-7)$ | |
| (r) $\frac{(-6) \times (-4)}{(-12)}$ | (s) $\frac{(-10)^2}{4}$ | |
| (t) $(-3) \times (-5) \times (-9)$ | (u) $(-5)^2 + (-6)^2$ | |

2. If $a = 6$, $b = 3$ and $c = 7$, calculate:

- | | | |
|---------------|-----------------|-----------------------|
| (a) ab | (b) $b + c$ | (c) $c - a$ |
| (d) $4b + 6c$ | (e) $4c - 2b$ | (f) $6a - 2c$ |
| (g) abc | (h) $ab - bc$ | (i) $2bc + ac$ |
| (j) b^2 | (k) $a^2 - b^2$ | (l) $a^2 + b^2 - c^2$ |

3. If $a = 2$, $b = -4$ and $c = -5$, evaluate:

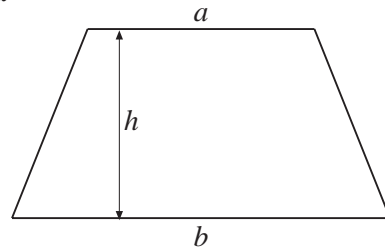
- | | | |
|-----------------|---------------|---------------|
| (a) $a^2 + b^2$ | (b) ab | (c) bc |
| (d) $a - b$ | (e) $c - b$ | (f) $3a + 2c$ |
| (g) $2a - 4c$ | (h) $3a + 2b$ | (i) $ab - ac$ |

4. Calculate $\sqrt{a + bc}$ when $a = 15$, $b = 2$ and $c = -3$.
5. A formula for the perimeter of a triangle is $p = x + y + z$, where x , y and z are the lengths of the three sides. Calculate the value of p when $x = 1\frac{1}{2}$ cm, $y = 2\frac{1}{2}$ cm and $z = 3\frac{1}{2}$ cm.

6. The area of a trapezium is given by the formula

$$A = \frac{1}{2}(a + b)h$$

Calculate the area of the trapezium for which $a = 3$ cm, $b = 3.6$ cm and $h = 2.2$ cm.



7. The length of one side of a right-angled triangle is given by the following formula:

$$l = \sqrt{h^2 - x^2}$$

Calculate the length l , if $h = 13$ cm and $x = 12$ cm.

8. The following formula can be used to convert temperatures from degrees Celsius (C) to degrees Fahrenheit (F):

$$F = 32 + \frac{9C}{5}$$

Calculate the value of F , if:

- | | |
|---------------|---------------|
| (a) $C = 100$ | (b) $C = 20$ |
| (c) $C = -10$ | (d) $C = -20$ |
9. A formula states that
- $$s = \frac{1}{2}(u + v)t$$
- Calculate the value of s , if:
- | | |
|--------------------------------------|---------------------------------------|
| (a) $u = 3$, $v = 6$ and $t = 10$ | (b) $u = -2$, $v = 4$ and $t = 2$ |
| (c) $u = -10$, $v = -6$ and $t = 3$ | (d) $u = -20$, $v = -40$ and $t = 3$ |